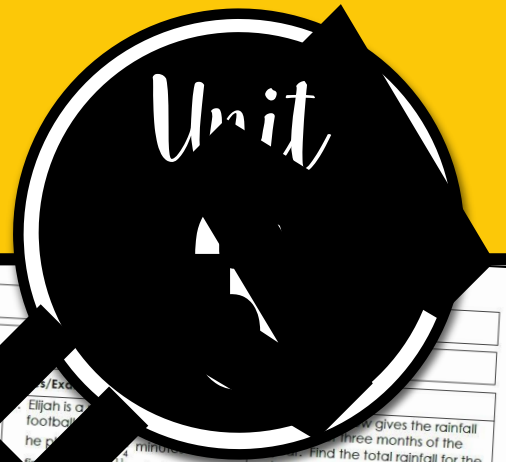


MATH 6



Preview of Math 6 Rational Numbers worksheets:

- Equivalent Fractions:** Fractions that represent the same value. Example: $\frac{1}{2}$. To create equivalent fractions, multiply the numerator and denominator by the same number. Give two equivalent fractions: $\frac{1}{2} = \frac{2}{4}$.
- Adding & Subtracting Fractions:** Write all mixed numbers as improper fractions. Find the least common multiple (LCM) of the denominators. Rewrite the fractions using the LCM. Add/Subtract the numerators. Find each sum or difference. Example: $\frac{1}{3} + \frac{2}{3} = \frac{3}{3} = 1$.
- Base-Ten System:** The base-ten system uses powers of ten. A decimal is a number with a decimal point. The decimal point separates the whole number from the fraction. Example: 1.56 (one and fifty-six hundredths).
- Decimals:** A decimal is a number with a decimal point. The decimal point separates the whole number from the fraction. Example: 1.56 (one and fifty-six hundredths).
- Multiplying Decimals:** Line up the factors so that the decimal points are in the same column. Multiply as you would whole numbers. Place the decimal point in the product. Example: $5.8 \times 2 = 11.6$.
- Dividing Decimals:** To divide a number by a decimal, make the divisor a whole number by moving the decimal over. Move the decimal over in the dividend the same number of places. Example: $11.6 \div 2 = 5.8$.

RATIONAL NUMBERS

NOTES • HOMEWORK • QUIZZES • TEST

Created by: ALL THINGS ALGEBRA®



Thank you SO MUCH

for purchasing this resource!

If you have any questions or comments, please email me at allthingsalgebra@gmail.com.

Visit www.allthingsalgebra.com for more resources like this!

Let's Stay Connected!



[Join the All Things Algebra® Facebook Community!](#)

TERMS OF USE

© 2015-2026 Gina Wilson (All Things Algebra®)

LICENSING TERMS:

This resource is licensed for use by the individual teacher to whom the license is assigned. It may not be shared with other teachers, departments, schools, or districts. Each teacher using the resource must purchase their own license.

Non-transferable licenses are owned by the purchaser or the teacher for whom they were purchased and are not to be shared. Transferable licenses are school-owned and may be reassigned to another teacher as staffing changes. To request a license transfer, please contact schools@allthingsalgebra.com.

For schools or districts interested in purchasing transferable licenses to accommodate multiple teachers, they may contact schools@allthingsalgebra.com for a quote.

COPYRIGHT TERMS:

No part of this resource may be uploaded or shared online, including on classroom or personal websites, network drives, or shared folders, unless access is password-protected and restricted to students only. Any videos featuring this material must also be accessible only to your students. This resource is for personal classroom use only. Creating derivative works is prohibited.

Thank you for respecting my work!



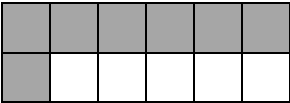
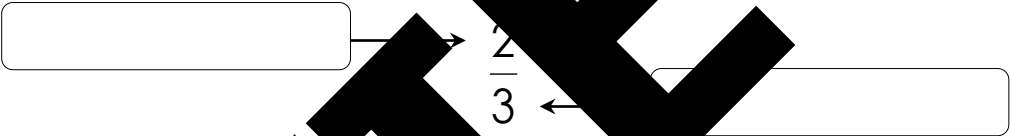
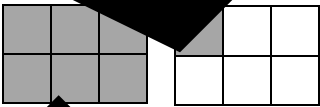
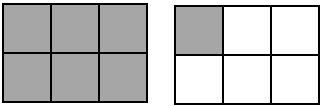
Unit 3 – Rational Numbers: Sample Unit Outline

	TOPIC	HOMEWORK
DAY 1	Mixed vs. Improper Forms, Simplifying Fractions	HW #1
DAY 2	Equivalent Fractions; Comparing & Ordering Fractions	HW #2
DAY 3	Adding & Subtracting Fractions (Like Denominators)	HW #3
DAY 4	Adding & Subtracting Fractions (Unlike Denominators)	HW #4
DAY 5	Quiz 3-1	None
DAY 6	Multiplying Fractions	HW #5
DAY 7	Dividing Fractions	HW #6
DAY 8	All Fraction Operations	HW #7
DAY 9	Applications with Fraction Operations	None
DAY 10	Quiz 3-2 (All Fraction Operations)	None
DAY 11	Decimals (Place Value, Comparing, Rounding)	HW #8
DAY 12	Adding & Subtracting Decimals	HW #9
DAY 13	Multiplying Decimals	HW #10
DAY 14	Dividing Decimals	HW #11
DAY 15	Applications with Decimal Numbers	↓
DAY 16	All Decimal Operations	HW #12
DAY 17	Quiz 3-3 (All Decimal Operations)	None
DAY 18	Rational Numbers: Fractions & Decimals	HW #13
DAY 19	Negative Rational Numbers	HW #14
DAY 20	Unit 3 Review	Study For Test
DAY 21	UNIT 3 TEST	None

ADDITIONAL RESOURCES:

- [Video Links & Google Slides](#)
- [Suggested Activities](#)

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples	
FRACTIONS	We can use fractions when describing a part of a whole. Use a fraction to describe the model below.  This fraction is read as _____	
parts of a FRACTION		
RATIONAL NUMBERS		
Mixed NUMBERS	A mixed number is a number consisting of a whole number greater than 0 and a fraction. Use a mixed number to represent the model below: 	
IMPROPER FRACTIONS	An improper fraction is a fraction in which the numerator is greater than the denominator. Use an improper fraction to represent the model below: 	
CONVERTING between FORMS	To write a mixed number as an improper fraction: Multiply the denominator with the whole number, then add the numerator. Keep the denominator.	
	Write each mixed number as an improper fraction.	
	1. $4\frac{1}{2}$	2. $7\frac{2}{3}$
		3. $2\frac{5}{8}$

4. $1\frac{3}{14}$

5. $4\frac{9}{10}$

6. $3\frac{7}{12}$

To write an improper fraction as a mixed number:

Divide the numerator by the denominator.
 The quotient is the whole number and the
 remainder is the numerator of the fraction.
 Keep the denominator.

$4\frac{4}{5}$

Write each improper fraction as a mixed number.

7. $\frac{17}{4}$

8. $\frac{13}{9}$

10. $\frac{26}{3}$

11. $\frac{13}{9}$

12. $\frac{38}{7}$

**Simplest
Form**

A fraction is in **simplest form** when the greatest
 common factor (GCF) of both the numerator
 and denominator is 1. To write a fraction in
 simplest form, divide the numerator and
 denominator by the GCF.

$\frac{15}{24} =$

Simplify your answer as a mixed number when possible.

13. $\frac{6}{8}$

14. $\frac{5}{15}$

15. $\frac{4}{32}$

16. $1\frac{4}{10}$

17. $5\frac{8}{12}$

18. $2\frac{32}{40}$

19. $\frac{24}{16}$

20. $\frac{18}{15}$

21. $\frac{42}{12}$

Name: _____

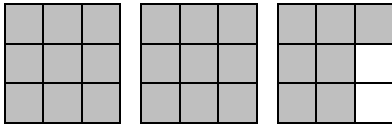
Unit 3: Rational Numbers

Date: _____ Per: _____

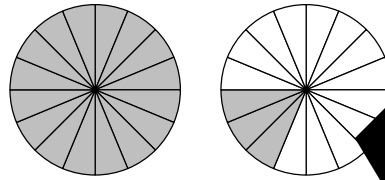
Homework 1: Writing & Simplifying Fractions

Directions: Describe each model using **(a)** a mixed number and **(b)** an improper fraction.

1.



2.

**Directions:** Write each number as an improper fraction.

3. $2\frac{1}{6}$

4. $1\frac{2}{7}$

5. $6\frac{3}{4}$

Directions: Write each fraction as a mixed number.

7. $\frac{8}{3}$

8. $\frac{29}{10}$

10. $\frac{13}{4}$

11. $\frac{34}{15}$

12. $\frac{62}{7}$

Directions: Simplify. Write the answer as a mixed number when possible.

13. $\frac{16}{28}$

14. $\frac{18}{45}$

15. $\frac{24}{32}$

16. $2\frac{6}{48}$

17. $1\frac{15}{18}$

18. $8\frac{12}{54}$

20. $\frac{66}{48}$

21. $\frac{120}{36}$

22. $\frac{63}{48}$

23. $\frac{86}{20}$

24. $\frac{87}{12}$

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples
Equivalent Fractions	Fractions that represent the same value are equivalent fractions. $\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$
Writing Equivalent Fractions	To create equivalent fractions, multiply the numerator and denominator by the same value. List two equivalent fractions: $\frac{1}{4} = \frac{\quad}{\quad}$
	Give two equivalent fractions for each fraction. 1. $\frac{4}{5}$ 2. $\frac{1}{12}$ 3. $\frac{14}{9}$
	Write a number in the box that makes the fractions equivalent. 4. $\frac{3}{2} = \frac{\quad}{4}$ 5. $\frac{15}{20} = \frac{3}{\quad}$ 6. $\frac{16}{18} = \frac{\quad}{9}$
	7. $\frac{\quad}{\quad} = \frac{12}{\quad}$ 8. $\frac{\quad}{40} = \frac{2}{5}$ 9. $\frac{7}{3} = \frac{42}{\quad}$
	To determine if fractions are equivalent, simplify both fractions. Determine if the given pair of fractions are equivalent.
Are the fractions equivalent?	10. $\frac{8}{12}, \frac{4}{6}$ 11. $\frac{1}{4}, \frac{4}{20}$ 12. $\frac{6}{18}, \frac{5}{15}$
	13. $\frac{27}{18}, \frac{21}{14}$ 14. $\frac{18}{24}, \frac{6}{10}$ 15. $\frac{21}{9}, \frac{28}{12}$
Like Fractions	Example:

UNLike FRACTIONS	
COMPARING FRACTIONS	Example: Given Fraction A = $\frac{3}{4}$ and Fraction B = $\frac{5}{6}$, which fraction is greater? To compare, we can rewrite them as like fractions using a common denominator. Follow the steps below to compare Fraction A to Fraction B.
	1 Find the least common multiple (LCM) of the denominators.
	2 Rewrite Fraction A using the LCM as the denominator.
	3 Rewrite Fraction B using the LCM as the denominator.
	4 Use a <, >, or = symbol to compare the fractions.
	Compare using a <, >, or = symbol. 16. $\frac{3}{7} \bigcirc \frac{1}{3}$ 17. $\frac{4}{5} \bigcirc \frac{13}{15}$
	18. $\frac{10}{6} \bigcirc \frac{17}{12}$ 19. $\frac{5}{6} \bigcirc \frac{23}{24}$
ORDERING FRACTIONS	Order the fractions from least to greatest. 22. $\frac{1}{2}, \frac{2}{5}, \frac{7}{20}$ 23. $\frac{5}{9}, \frac{2}{3}, \frac{11}{18}$
	Order the fractions from greatest to least. 24. $\frac{3}{5}, \frac{7}{10}, \frac{4}{6}$ 25. $\frac{9}{4}, \frac{11}{6}, \frac{5}{2}$

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 2: Equivalent Fractions;
Comparing & Ordering Fractions**Directions:** Give two equivalent fractions for each fraction.

1. $\frac{7}{8}$

2. $\frac{4}{15}$

3. $\frac{19}{3}$

Directions: Write a number in the box that makes the fractions equivalent.

4. $\frac{5}{7} = \frac{\boxed{}}{42}$

5. $\frac{12}{27} = \frac{4}{\boxed{}}$

6. $\frac{\boxed{}}{6} = \frac{5}{3}$

7. $\frac{3}{5} = \frac{13}{\boxed{}}$

Directions: Determine whether the fractions are equivalent.

8. $\frac{24}{32}, \frac{14}{18}$

9. $\frac{6}{16}, \frac{21}{56}$

10. $\frac{45}{20}, \frac{27}{16}$

Directions: Compare the fractions using a <, >, or = symbol. Do not use equivalent fractions.

11. $\frac{3}{4} \bigcirc \frac{4}{5}$

12. $\frac{6}{10} \bigcirc \frac{3}{5}$

13. $\frac{3}{16} \bigcirc \frac{1}{6}$

14. $\frac{15}{4} \bigcirc \frac{33}{9}$

15. $\frac{25}{6} \bigcirc \frac{15}{3}$

16. $\frac{16}{9} \bigcirc \frac{80}{45}$

17. Order from least to greatest: $\frac{1}{4}, \frac{1}{8}, \frac{23}{6}$ 18. Order from greatest to least: $\frac{4}{5}, \frac{11}{16}, \frac{31}{40}$

Amy, Josh, and Rhea were each given the same number of raffle tickets to sell. The table below shows the fraction of their tickets that they sold. Who sold the fewest tickets?

Amy	Josh	Rhea
$\frac{2}{3}$	$\frac{7}{12}$	$\frac{3}{5}$

20. The table below gives the weights, in ounces, of three packages. Which package weighs the most?

A	B	C
$1\frac{5}{6}$	$1\frac{13}{21}$	$1\frac{2}{3}$

ADDING & SUBTRACTING FRACTIONS

(with like denominators!)

Directions: Find each sum or difference. Write all answers as mixed numbers in simplest form.

Use your solutions to navigate through the maze. **SHOW ALL WORK!**

Start!

End! 😊

PREVIEW

Math problems in the maze:

- $\frac{9}{20} - \frac{7}{20}$
- $\frac{2}{5}$
- $\frac{2}{15} + \frac{14}{15}$
- $\frac{8}{15}$
- $\frac{11}{12} + 1\frac{5}{12}$
- $2\frac{1}{6}$
- $1\frac{3}{8}$
- $1\frac{1}{7}$
- $\frac{1}{10}$
- $1\frac{1}{5}$
- $2\frac{3}{4}$
- $2\frac{1}{4}$
- $1\frac{5}{8}$
- $3\frac{3}{8} - \frac{5}{8}$
- $\frac{8}{14}$
- $2\frac{7}{8}$
- $\frac{3}{5}$
- $1\frac{4}{15} - 2\frac{4}{15}$
- $1\frac{3}{14}$
- $2\frac{5}{8}$
- $2\frac{3}{8}$
- $\frac{4}{5}$
- $\frac{1}{15}$
- $2\frac{7}{12} - \frac{11}{12}$
- $1\frac{2}{9}$
- $3\frac{7}{16} + 1\frac{3}{16}$
- $1\frac{1}{2}$
- $7\frac{1}{2}$
- $1\frac{9}{40} - \frac{17}{40}$
- $4\frac{15}{16}$
- $4\frac{7}{8}$
- $4\frac{3}{4}$
- $1\frac{5}{6}$
- $4\frac{13}{48} + \frac{13}{48}$
- $2\frac{1}{2}$
- $1\frac{1}{8}$
- $3\frac{1}{2}$
- $2\frac{5}{6}$
- $2\frac{1}{3}$
- $5\frac{2}{3}$
- $5\frac{1}{2}$
- $2\frac{1}{4}$
- $1\frac{11}{24} + 1\frac{1}{24}$
- $3\frac{17}{18} - 1\frac{11}{18}$
- $2\frac{1}{3}$
- $2\frac{5}{12}$
- $2\frac{3}{5}$
- $\frac{83}{6} - \frac{49}{6}$
- $\frac{9}{20} + 1\frac{19}{20}$

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

ADDING & SUBTRACTING

fractions

(with **UNLIKE** Denominators)

- Write all mixed numbers as improper fractions.
- Find the least common multiple (LCM) of the denominators.
- Rewrite the fractions using the LCM as the denominator. Adjust each numerator to reflect the change in the denominator.
- Add/Subtract the numerators and keep the common denominator.
- Simplify, if necessary.

Find each sum or difference. Give your answer in simplest form.

1. $\frac{13}{12} + \frac{3}{4}$

3. $\frac{13}{6} + \frac{25}{6}$

5. $2\frac{1}{2} - \frac{1}{2}$

7. $1\frac{5}{9} + 4\frac{5}{6}$

2. $2\frac{1}{2} - \frac{1}{2}$

4. $\frac{7}{4} - \frac{3}{7}$

6. $\frac{41}{6} + \frac{3}{2}$

8. $4\frac{11}{12} - \frac{5}{9}$

$$9. \frac{1}{6} + 2\frac{1}{2}$$

$$10. 3\frac{5}{8} + 5\frac{11}{12}$$

$$11. 1\frac{3}{4} + \left(\frac{3}{2} + \frac{1}{3}\right)$$

$$12. \frac{4}{5} - \frac{1}{10} + 4\frac{3}{8}$$

APPLICATIONS

13. Jordan made apple-cranberry juice by combining $1\frac{7}{6}$ liters of apple juice with $1\frac{7}{8}$ liters of cranberry juice. How many liters of apple-cranberry juice did he have?

14. Melissa is making a recipe that calls for $2\frac{3}{4}$ cups of sugar. If she has $\frac{5}{6}$ cup, how many more cups of sugar does she need?

15. Matt took a 2-day road trip. He used $12\frac{5}{12}$ gallons of gas on the first day and $9\frac{1}{18}$ gallons of gas on the second day. How many total gallons of gas did he use?

16. River Run Middle School consists of grades 6, 7, and 8. If $\frac{3}{8}$ of the students are in seventh grade and $\frac{1}{3}$ of the students are in eighth grade, what fraction of the students are in sixth grade?

WHERE DID CAPTAIN HOOK *buy his hook?*

Directions: Find each sum or difference. Show all work on a separate sheet of paper. After completing each set, find matching answers. One will have a letter and the other a number. Write the letter in the matching numbered box at the bottom of the page.

SET 1 (Write each answer as a MIXED NUMBER in simplest form.)

T. $\frac{3}{4} + \frac{1}{2}$ _____

D. $2\frac{5}{12} - 1\frac{1}{8}$ _____

E. $1\frac{1}{4} - \frac{1}{3}$ _____

O. $\frac{5}{6} + 1\frac{13}{24}$ _____

N. $\frac{1}{3} + \frac{11}{48}$ _____

6. $1\frac{1}{6} + \frac{1}{8}$ _____

15. $1\frac{3}{4} - \frac{5}{6}$ _____

4. $1\frac{1}{2} + \frac{7}{8}$ _____

9. $1\frac{1}{16} - \frac{1}{24}$ _____

12. $\frac{3}{5} - \frac{1}{20}$ _____

SET 2 (Write each answer as a MIXED NUMBER in simplest form.)

A. $1\frac{2}{3} - \frac{4}{9}$ _____

S. $\frac{23}{36} + \frac{5}{12}$ _____

E. $3\frac{1}{5} - \frac{8}{15}$ _____

R. $\frac{3}{4} + 1\frac{1}{12}$ _____

C. $1\frac{1}{3} + 1\frac{2}{5}$ _____

3. $1\frac{1}{2} - \frac{5}{6}$ _____

8. $\frac{1}{4} + \frac{3}{36}$ _____

1. $1\frac{5}{9} - \frac{1}{2}$ _____

7. $1\frac{1}{2} + \frac{1}{3}$ _____

2. $3\frac{1}{6} - \frac{1}{2}$ _____

SET 3 (Write each answer as a MIXED NUMBER in simplest form.)

N. $\frac{3}{4} + \frac{9}{16}$ _____

S. $1\frac{1}{4} - \frac{4}{5}$ _____

H. $\frac{3}{5} + \frac{1}{10}$ _____

F. $\frac{1}{12} - \frac{1}{24}$ _____

O. $1\frac{2}{5} - \frac{1}{10}$ _____

1. $5\frac{1}{6} - 4\frac{4}{9}$ _____

13. $2\frac{1}{3} - \frac{5}{6}$ _____

7. $\frac{1}{6} + \frac{1}{2}$ _____

5. $1\frac{1}{15} + \frac{7}{12}$ _____

10. $1\frac{1}{2} - \frac{7}{30}$ _____

ANSWER: *he bought it at a*

I.	2.	3.	4.	5.	6.		7.	8.	9.	10.		11.	12.	13.	14.	15.	!
----	----	----	----	----	----	--	----	----	----	-----	--	-----	-----	-----	-----	-----	---

Name: _____

Unit 3: Rational Numbers



Date: _____ Per: _____

Homework 3: Adding & Subtracting Fractions

**** This is a 2-page document! ******Directions:** Find each sum or difference. Write all answers in simplest form.

1. $\frac{17}{18} + \frac{7}{18}$

2. $\frac{23}{24} - \frac{7}{24}$

3. $1\frac{5}{9} + 2\frac{7}{9}$

4. $5\frac{1}{8} - 2\frac{3}{8}$

5. $\frac{7}{10} + \frac{1}{20}$

6. $3\frac{3}{5} - \frac{1}{4}$

7. $4\frac{1}{12} + 1\frac{3}{4}$

8. $5\frac{1}{2} - 1\frac{5}{6}$

9. $3\frac{2}{12} + \frac{3}{2}$

10. $3\frac{5}{6} + \frac{1}{10} - \frac{3}{5}$

11. $11\frac{5}{6} - 1\frac{3}{8}$

12. $1\frac{11}{15} + 6\frac{1}{6}$

13. Kisha ran $8\frac{7}{15}$ miles then walked $1\frac{7}{10}$ miles. Find the total distance she traveled.

14. Tom has a rope that is $5\frac{3}{8}$ feet long. He cuts $1\frac{2}{3}$ feet off, how long is the rope remaining.

15. The clearance of a tunnel is $15\frac{1}{2}$ feet tall. If a truck is $13\frac{5}{12}$ feet tall, find the distance between the top of the truck and the top of the tunnel.

16. If $1\frac{1}{4}$ pounds of nuts is mixed with $\frac{2}{5}$ pounds of dried fruit to create trail mix, find the total weight of the mixture.

17. A bag contains 10 pounds of sand. If $3\frac{1}{9}$ pounds are poured out, find the weight of the sand remaining in the bag.

18. Mara made a cake. If she gave $\frac{4}{9}$ of the cake to her daughter and $\frac{1}{6}$ of the cake to her son, what fraction of the cake does she have left?

Name: _____

Math 6

Date: _____ Per: _____

Unit 2: Integer Operations

Quiz 3-1: Introduction to Fractions; Adding & Subtracting Fractions

1. Write as an improper fraction: $3\frac{4}{7}$

2. Write as a mixed number: $\frac{41}{8}$

Simplify. Write your answer as a mixed number when possible.

3. $\frac{21}{28}$

4. $\frac{30}{72}$

5. $\frac{60}{32}$

6. $\frac{84}{18}$

Determine whether the fractions are equivalent. (Answer yes or no)

7. $\frac{27}{48}, \frac{18}{28}$

8. $\frac{32}{24}, \frac{4}{9}$

Compare the fractions using a $<$, $>$, or $=$ symbol.

9. $\frac{8}{15} \bigcirc \frac{4}{5}$

10. $\frac{12}{21} \bigcirc \frac{8}{14}$

11. $\frac{19}{4} \bigcirc \frac{25}{6}$

12. The table below gives the lengths of three songs, in minutes. Use letter names, order the lengths of the songs from least to greatest.

Song	A	B	C
Length (minutes)	$3\frac{11}{16}$	$3\frac{7}{8}$	$3\frac{3}{5}$

12. _____, _____, _____

Find each sum or difference. Write all answers in simplest form and as mixed numbers when possible.

13. $\frac{5}{28} + \frac{7}{28}$

14. $\frac{4}{5} - \frac{2}{15}$

15. $2\frac{5}{6} - 1\frac{1}{8}$

16. $3\frac{7}{10} + \frac{3}{4}$

17. $1\frac{4}{9} - 1\frac{2}{15}$

18. $2\frac{1}{6}$

13. _____

14. _____

18. _____

19. _____

20. _____

19. Doug has a tile that is 9 inches long. If he needs the piece to be $4\frac{3}{4}$ inches long for a certain area, how much should he cut off?

20. A puppy Max was $8\frac{4}{9}$ pounds at his first vet appointment. If he gained $3\frac{11}{12}$ pounds at his second appointment, find Max's weight at his second vet appointment.

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

MULTIPLYING fractions

Follow the steps below to multiply fractions.

- ① Write all mixed numbers as improper fractions.
- ② Simplify up and down and along the diagonals (if possible).
- ③ Multiply the numerators to get the new numerator.
Multiply the denominators to get the new denominator.
- ④ Simplify, if necessary.

Find each product. Give all answers in simplest form.

1. $\frac{3}{8} \times \frac{5}{6}$

3. $1\frac{1}{5} \times 1\frac{1}{5}$

4. $1\frac{1}{3} \times 2\frac{5}{8}$

5. $2\frac{3}{8} \cdot 1\frac{5}{7}$

6. $1\frac{1}{4} \cdot 3\frac{7}{10}$

$$7. 2\frac{2}{9} \cdot 1\frac{5}{8}$$

$$8. 2\frac{1}{6} \cdot 5\frac{7}{9}$$

$$9. 5\frac{1}{10} \cdot 1\frac{7}{8}$$

$$10. 4\frac{9}{10}$$

$$11. 2\frac{5}{6} + 3\frac{3}{4} \cdot 1\frac{1}{5}$$

$$12. 1\frac{1}{2} \cdot \left(1\frac{1}{2} - \frac{3}{5}\right)$$

APPLICATIONS

13. Mrs. Smith has 2 pounds of flour. If she uses $\frac{2}{3}$ of the bag for a recipe, how many pounds of flour are left in the bag?

14. The furthest Jack has run was $3\frac{7}{15}$ miles. If he runs $1\frac{1}{4}$ times further than his longest run, how far did he run?

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 4: Multiplying Fractions

Directions: Find each product. Write each answer in simplest form.

1. $\frac{3}{7} \cdot \frac{5}{6}$

2. $2\frac{1}{2} \cdot \frac{7}{10}$

3. $\frac{2}{3} \cdot 5\frac{3}{4}$

4. $1\frac{4}{9} \cdot \frac{3}{10}$

5. $4\frac{7}{9} \cdot 2\frac{2}{5}$

6. $\left(3\frac{1}{12}\right) \cdot 1\frac{1}{2}$

7. If you have $4\frac{1}{6}$ yards of fabric and cut $\frac{2}{5}$ of it off to make a quilt, how many yards of fabric will you have remaining? One cup of sugar weighs $6\frac{3}{10}$ ounces. Find the total weight of $4\frac{2}{3}$ cups of sugar.

8. A baby weighed $6\frac{1}{9}$ pounds at birth. What is his current weight if he now weighs $\frac{1}{3}$ of his birth weight.

10. There was $4\frac{1}{8}$ gallons of water in a jug. If a soccer team drank $\frac{4}{9}$ of the water, how much water remains in the jug?

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

DIVIDING fractions

Follow the steps below to divide fractions.

- ① Write all mixed numbers as improper fractions.
- ② Change the division symbol to multiplication and flip the second fraction to its reciprocal (KISS!)
- ③ Multiply the numerators to get the new numerator. Multiply the denominators to get the new denominator.
- ④ Simplify (if needed).

Find each quotient. Give all answers in simplest form.

1. $\frac{1}{4} \div \frac{5}{6}$

3. $\frac{2}{3} \div 1\frac{2}{3}$

5. $3 \div 1\frac{4}{5}$

7. $3 \div 2\frac{2}{5}$

4. $1\frac{1}{4} \div 1\frac{1}{8}$

6. $1\frac{2}{9} \div \frac{5}{6}$

8. $5\frac{1}{3} \div 1\frac{1}{9}$

9. $2\frac{5}{8} \div 6\frac{3}{4}$

10. $9\frac{1}{3} \div 4$

11. $3\frac{3}{7} \div \frac{10}{21}$

12. $\frac{3}{4} + \frac{9}{12} - \frac{6}{8}$

APPLICATIONS

13. A container of juice contains 6 cups. If the serving size listed on the package is $\frac{3}{4}$ cup, how many servings are there?

14. How many bracelets can be made using $10\frac{5}{6}$ feet of string if each bracelet requires $\frac{5}{8}$ feet of string?

15. Mr. Kesler is filling test tubes with a solution to use with his science students. If he has 220 milliliters of solution and each test tube can hold a maximum of $9\frac{1}{3}$ milliliters, how many test tubes will he need?

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 5: Dividing Fractions

Directions: Find each product. Write each answer in simplest form.

1. $\frac{7}{9} \div \frac{5}{6}$

2. $1\frac{2}{3} \div \frac{8}{9}$

3. $\frac{5}{8} \div 2\frac{11}{12}$

4. $8\frac{2}{5} \div 6$

5. $4\frac{2}{3} \div 1\frac{7}{9}$

6. $1\frac{1}{6} \left(\frac{5}{6} - \frac{2}{15} \right)$

7. The bake shop had $3\frac{3}{8}$ pans of brownies left at the end of the day. If they evenly distribute the brownies to each of their 12 employees, what fraction of a pan will each employee receive?

How many strips of ribbon can be cut from a roll of ribbon that is $4\frac{4}{9}$ meters long if each piece is $\frac{5}{12}$ meters long?

8. A block is $\frac{15}{16}$ inch tall. How many blocks are needed to climb a tower that is at least 18 inches tall?

10. Scott has $18\frac{3}{4}$ gallons of gas in his tank. If he uses $\frac{3}{50}$ gallons of gas per mile he drives, how many miles can he drive before his tank is empty?

FRACTION OPERATIONS maze!

Directions: Evaluate each expression. Write all answers as mixed numbers in simplest form. Use your solutions to navigate through the maze. **Staple all work to this paper!**

PREVIEW

Start!

End!

$2\frac{8}{9} - \frac{5}{6}$
 $1\frac{1}{6} \cdot 5\frac{5}{9}$
 $1\frac{5}{6} \div 1\frac{1}{3}$
 $2\frac{1}{9}$
 $6\frac{13}{27}$
 $1\frac{3}{8}$
 $\frac{16}{21}$
 $2\frac{1}{18}$
 $6\frac{11}{18}$
 $1\frac{5}{18}$
 $1\frac{4}{9}$
 $1\frac{5}{6}$
 $3\frac{7}{9} + 1\frac{5}{12}$
 $1\frac{9}{10} \div \frac{1}{8}$
 $2\frac{1}{2}$
 $\frac{1}{12} - \frac{1}{3}$
 $5\frac{5}{36}$
 $15\frac{1}{5}$
 $1\frac{7}{12}$
 $4\frac{35}{36}$
 $\frac{17}{20}$
 $15\frac{3}{10}$
 $1\frac{5}{24}$
 $\frac{1}{3}$
 $3\frac{3}{4} \cdot \frac{1}{6}$
 $\frac{7}{9}$
 $\frac{7}{12} \cdot \frac{5}{36}$
 $1\frac{1}{2} \cdot \frac{2}{9}$
 $\frac{7}{12}$
 $\frac{2}{9}$
 $\frac{5}{8}$
 $\frac{13}{36}$
 $1\frac{5}{6}$
 $\frac{11}{15}$
 $\frac{2}{3}$
 $3\frac{5}{6} - 2\frac{1}{4}$
 $3\frac{3}{4} \div 8$
 $\frac{17}{40}$
 $\frac{19}{30}$
 $\frac{1}{5} + \frac{7}{15}$
 $9\frac{1}{2}$
 $\frac{13}{28}$
 $\frac{9}{20}$
 $2\frac{17}{24}$
 $\frac{13}{15}$
 $\frac{7}{9}$
 $5\frac{7}{10} \cdot \frac{1}{3}$
 $1\frac{3}{7} - \frac{3}{4}$
 $\frac{17}{28}$
 $2\frac{1}{12} + \frac{5}{8}$
 $\frac{7}{15} \div \frac{21}{40}$
 $8\frac{7}{15}$
 $2\frac{1}{48}$

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 6: All Fraction Operations

Directions: Evaluate each expression. Write all answers in simplest form as mixed numbers.

1. $\frac{13}{18} - \frac{5}{18}$

2. $\frac{5}{12} + \frac{5}{6}$

3. $1\frac{3}{5} + \frac{11}{15}$

4. $4\frac{1}{6} - 1\frac{3}{8}$

5. $\frac{5}{6} + 5\frac{9}{10}$

6. $1\frac{5}{9} - \frac{7}{9}$

7. $\frac{5}{12} \cdot \frac{9}{25}$

8. $3\frac{4}{9} \cdot 1\frac{7}{8}$

9. $2\frac{2}{5} \cdot 3\frac{1}{8}$

10. $\frac{15}{24} \div \frac{18}{32}$

12. $4\frac{2}{3} \div 4\frac{1}{12}$

11. $\frac{15}{24} \div 2\frac{3}{16}$

14. $1\frac{5}{9} \cdot \left(\frac{9}{14} + \frac{3}{4}\right)$

15. $\frac{1}{15} + \frac{6}{5} \div \frac{12}{7}$

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

ADDITION

Applications

1. Elijah is a running back on a football team. In the last game, he played for $4\frac{3}{4}$ minutes in the first half and $7\frac{11}{20}$ minutes in the second half. Find his total playing time.

2. The table below gives the rainfall for the first three months of the year. Find the rainfall for the two months with the least amount of rain.

Month	Jan	Feb	Mar
Rain (inches)	$2\frac{1}{9}$	$2\frac{19}{36}$	

SUBTRACTION

Applications

3. A piece of fabric is $7\frac{1}{4}$ yards long. If $2\frac{1}{4}$ yards are cut off, how many yards remain?
4. A farmer cleared $2\frac{1}{8}$ acres from a $7\frac{5}{12}$ acre lot to build a house. How much of the land is wooded?

MULTIPLICATION

Applications

5. Jason has two cats, Benson and Sadie. If Sadie weighs $11\frac{5}{9}$ pounds and Benson weighs $1\frac{5}{16}$ times the weight of Sadie, how much does Benson weigh?
6. If a bathtub contains $28\frac{3}{4}$ gallons of water. How much water is left in the tub if $\frac{2}{5}$ of the water is drained?

DIVISION

Applications

7. A bag contains $2\frac{5}{8}$ pounds of candy. If the candy is equally distributed to six children, how many pounds will each child get?

8. An art teacher is pouring $74\frac{2}{3}$ ounces of paint into cups for her students to use. If each cup can hold a maximum of 4 ounces, how many cups does she need?

MIXED

Applications

9. Dana needs $1\frac{2}{3}$ yards of fabric to make a flag. If she has 2 yards, how many flags can she make?

10. A fish tank holds $14\frac{5}{8}$ gallons of water. If $\frac{1}{4}$ of the water is drained from the tank, so there is now $11\frac{13}{40}$ gallons, how much water was drained?

11. Evan ran two miles. He ran the first mile in $8\frac{1}{3}$ minutes and the second mile $1\frac{8}{15}$ minutes faster than the first mile. Find his total time.

12. Jake weighs $73\frac{7}{15}$ pounds. If Hunter weighs $\frac{5}{6}$ the weight of Jake, find the difference in their weights.

FRACTION APPLICATIONS *Relay Puzzle!*

Directions: Follow the arrows to solve each problem. Use the answer from your previous problem in the blank in the next problem. Work through the page until you reach the end. Show all work neatly on a separate sheet of paper.

START! 1 Max has a bag that contains $4\frac{5}{6}$ pounds of fertilizer. If he uses $1\frac{1}{2}$ pounds, how many pounds of fertilizer are left in the bag?	2 Nia's normal running route is _____ miles. If she ran this route $3\frac{3}{4}$ times this week, find the total number of miles she ran.	3 Tre lost _____ pounds in _____ weeks. If his weight loss remained constant each week, how many pounds did he lose each week?
6 Karen has a piece of fabric that is _____ yards long. If she needs a piece that is $\frac{5}{6}$ yards long, how many yards should she trim?	5 As a snow machine, _____ feet of snow fell. If _____ of the snow has melted, how many feet of snow remains?	4 Elena's math exam had two parts. It took her $\frac{5}{12}$ hours to complete the first part and _____ hours to complete the second part. How many hours did it take Elena to complete the exam?
7 How many pieces of wood can be cut from a board that is $10\frac{7}{8}$ feet long if each piece is _____ feet long?	8 Travis combined $2\frac{13}{15}$ pounds of peanuts with $1\frac{1}{3}$ pounds of raisins to create trail mix, then equally distributed the mix into _____ bags. How many pounds of trail mix are in each bag?	9 When a tree was planted, it was 3 _____ feet tall. It is now $1\frac{5}{9}$ times taller. How many feet has the tree grown since it was planted? END!

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 7: Fraction Operations Applications

**** This is a 2-page document! ****

Directions: Read each problem carefully, then solve.

1. Greg dropped a bouncy ball. It reached $5\frac{1}{3}$ feet on the first bounce, then $\frac{9}{20}$ as high on the second bounce. How high did the ball reach on the second bounce?

2. Natalie and Caroline went fishing. Natalie caught a fish that weighed $7\frac{1}{2}$ pounds and Caroline caught a fish that weighed $12\frac{1}{4}$ pounds. How much heavier is Caroline's fish?

3. A cleaner is made by combining $2\frac{5}{12}$ cups of cleaning solution with $5\frac{3}{4}$ cups of water in a sprayer bottle. How many cups of cleaner are in the bottle?

4. Camryn's brother Aiden was $20\frac{1}{4}$ inches long at birth. If he is now $22\frac{1}{2}$ inches long, how many times longer is he than his birth length?

5. Kayleigh ran $1\frac{1}{2}$ miles and walked $1\frac{5}{6}$ miles. How far did she travel in total?

6. An orchestra is playing a piece that is $6\frac{3}{8}$ minutes long. If they are $\frac{2}{3}$ through the piece, how many minutes are left?

7. Lisa has a piece of wood that is $12\frac{1}{5}$ feet long. If she is cutting the wood into pieces that are $1\frac{3}{5}$ feet long, what is the maximum number of pieces she can cut?

8. A bag contains $3\frac{7}{10}$ pounds of peanuts. If Joe eats $1\frac{11}{15}$ pounds, how many pounds of peanuts are left in the bag?

9. Zac combined $5\frac{2}{3}$ cups of iced tea with $3\frac{1}{12}$ cups of lemonade. If he divides the drink evenly among 5 people, how many cups will each person get?

10. Mary has $7\frac{1}{2}$ square feet of wrapping paper. If she needs $1\frac{3}{5}$ times as much paper than she has, how many more feet of paper does she need?

Write a word problem that can be solved using the given expression. Then solve.

11. $2\frac{5}{6} - \frac{7}{18}$ _____

Solve:

12. $12\frac{3}{4}$ _____

Solve:

Name: _____

Math 6

Date: _____ Per: _____

Unit 3: Rational Numbers

Quiz 3-2: All Fraction Operations & Applications

Directions: Find each sum, difference, product, or quotient. Give each answer as a mixed number in simplest form.

1. $\frac{2}{3} + \frac{7}{12}$

2. $2\frac{1}{6} - \frac{2}{9}$

3. $1\frac{5}{6} + \frac{13}{24}$

4. $3\frac{3}{10} - 2\frac{7}{10}$

5. $\frac{9}{10} \cdot \frac{16}{27}$

7. $\frac{8}{15} \div \frac{2}{3}$

8. $2\frac{7}{10} \div 4\frac{1}{5}$

9. $\frac{1}{16} \cdot 1\frac{9}{10}$

10. $1\frac{1}{6} - \frac{1}{5} + 1\frac{1}{2}$

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

Directions: Read each problem carefully and solve.

11. Alyssa used a can of paint that was $\frac{5}{6}$ full to touch up paint in her house. When she was done, the bucket was $\frac{11}{30}$ full. What fraction of the can did she use?

11. _____

12. _____

13. _____

14. _____

12. Each bag of sand weighs $7\frac{1}{8}$ pounds. Find the total weight of $6\frac{2}{3}$ bags.

15. _____

13. It takes Casey $2\frac{3}{16}$ minutes to complete one lap around the track. If he has 40 minutes, how many full laps can he complete?

14. Lanson biked 18 miles from home to work, then $1\frac{4}{9}$ miles to the park. How far did he bike altogether?

Let had $14\frac{4}{5}$ gallons of gas in her car at the beginning of the week. At the end of the week she had $6\frac{1}{3}$ gallons. If $\frac{3}{4}$ of the gallons used were from driving to and from work, how many gallons were used for work?

Name:

Date:

Topic:

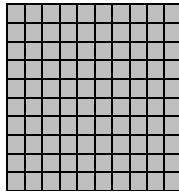
Class:

Main Ideas/Questions

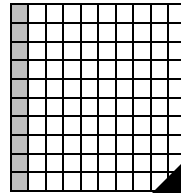
Notes/Examples

BASE-TEN SYSTEM

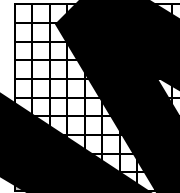
The base-ten system can be used to model a part of a whole.



1 one (1 whole)



1 tenth



1 hundredth

DECIMALS

& place value

A decimal is a number written using the base-ten place value system. The decimal separates the whole number part from the part that is less than one.

whole number			less than one			
hundreds	tens	ones	tenths	hundredths	ten-thousandths	hundred-thousandths
			3	0	0	0

Standard Form: _____ Expanded Form: _____

Word Form: _____

Write the number in standard form.

- | | |
|--|--|
| 1. six and five tenths | 2. seventy-eight hundredths |
| 3. five and sixty-one hundredths | 4. four and seven thousandths |
| 5. eighty-nine and two tenths | 6. twenty-five ten-thousandths |
| 7. one hundred forty-seven and six thousandths | 8. seventy-three and nineteen hundredths |

Write each decimal using words.

9. 5.9

10. 0.04

11. 17.28

12. 3.061

COMPARING

& ordering

Place value can be used to compare decimals by lining up the numbers at the decimal. Insert zeros so that each number has the same number of digits following the decimal. Compare the numbers below using a $<$, $>$, or $=$ symbol:

0.17 0.0932

Compare using a $<$, $>$, or $=$ symbol.

13. 4.08 4.203

14. 0.702 0.217

15. 1.159 1.18

16. 8.00952 8

Order from least to greatest:

17. 0.15, 0.008, 0.701

18. 2.48, 2.48, 2.4802

Order from greatest to least:

19. 7.042, 7.09, 7.0751

20. 1.01, 1.101, 1.11

21. A runner ran the 50-yard dash in 10.012 seconds. If the school record was 9.009 seconds, did he beat the school record?

ROUNDING

decimals

To round a decimal to a given place value, look at the digit to the right of the place value. If this digit is 5 or higher, we round up. If the digit is less than 5, we round down.

Round each number to the indicated place value.

22. 1.33333; tenths

23. 1.33333; hundredths

24. 58.90261; thousandths

25. 9.04; tenths

26. 2.2958; hundredths

27. 16.2832519; ten-thousandths

28. The atomic weight of iron is 55.845. What is the atomic weight of iron to the nearest hundredth?

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 8: Decimals & Place Value**Directions:** Write the number as a decimal in standard form.

1. fifty-nine thousandths

2. twelve and seven tenths

3. one hundred eight and four hundredths

4. thirty-one and sixty-five ten thousandths

5. nine and eight thousandths

6. one-thousand forty and three hundredths

Directions: Write each decimal using words.

7. 4.28

8. 18.007

9. 92.1

10. 0.0014

Directions: Compare using a $<$, $>$, or $=$ symbol.11. 3.009 3.02

12.

390

13. 0.201 0.1084

14. Order from least to greatest:

16.04, 16.1, 16.0092

15. Order from greatest to least:

0.0702, 0.00095, 0.1014

16. If Jeremy had a batting average of 0.5014 and Aaron has a batting average of 0.50098, who had the better batting average?

17. Mia's top three times for the 1600-meter run are 6.07, 6.112, and 6.045 minutes. Which of these times is her fastest run?

Directions: Round each number to the indicated place value.

18. 2.084; hundredths

19. 13.951; tenths

20. 14.021555; ten-thousandths

21. 1.234562; thousandths

22. 340.172; hundredths

23. 8.099; tenths

24. Samantha spent \$24.49 on lunch. To the nearest dollar, how much did she spend on lunch?

25. The width of a board is 5.10529 inches. Round the width of the board to the nearest thousandth of an inch.

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

**ADDING &
SUBTRACTING**
decimals

To add or subtract decimals:

- ① Line up the decimal points.
- ② Insert zeros when necessary as place holders.
- ③ Add or subtract as you normally would. Bring down the decimal.

EXAMPLE 1 $7.19 + 3.54$

EXAMPLE 2 $2.1 + 3.54$

EXAMPLE 3 $6.407 - 2.1$

EXAMPLE 4 $42.3 - 3.905$

Find each difference.

1. $5.91 + 8.36$

2. $7.24 - 3.98$

3. $6.7 - 2.156$

4. $7.981 + 8.5$

$$5. 21 - 16.83$$

$$6. 47.63 + 23.496$$

$$7. 27.001 - 18.64$$

$$8. 39.985 + 68.9$$

$$9. 7.03 + 11 - 2.518$$

$$10. 42 - 15.7 - 6.82$$

APPLICATIONS

11. If Song A is 3 minutes long and Song B is 3.8 minutes long, how many more minutes does Song A last than Song B?

12. Casey had \$560.94 in his checking account. If he deposits a check for \$96.18, then spends \$17.05 on lunch, find his new balance.

13. Earth is approximately 390.84 million miles closer to the Sun than Jupiter. If Jupiter is 483.8 million miles to the Sun, find the distance from Earth to the Sun.

14. Jacksonville, Florida, is 554.58 miles from Charleston, West Virginia. Charleston is 217.8 miles from Cleveland, Ohio. If the three cities lie on the same longitude, find the distance from Jacksonville to Cleveland.

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 9: Adding & Subtracting Decimals

Directions: Find each sum or difference.

1. $16.749 + 0.826$

2. $23.4 - 18.9$

3. $7.6 - 2.83$

4. $6.25 + 11.952$

5. $15 - 9.48$

6. $11.6 + 11.4$

7. If helium has an atomic weight of 4.0026 and oxygen has an atomic weight of 15.999, find the difference in their atomic weights.

8. In a 100-meter freestyle, a swimmer swam the first half in 21.4 seconds and the second half in 22.6 seconds. If his previous record was 64.0 seconds, did he beat his record?

9. Susan has a coffee shop. She started with a balance of \$14.00. If she used her card to purchase a coffee for \$3.89, find her new balance. What is the cost of the coffee?

10. Jeremy ran several laps around the track. He completed his last lap track in 1.89 minutes, which was 0.35 minutes less than his first lap. How many minutes did it take him to complete his first lap?

11. A baby boy was born weighing 7.12 pounds. The next day, he had lost 0.8 pounds. He was weighed again the following day before going home with his mother. If he had gained 0.29 pounds, find his weight when he left the hospital.

12. Darryl set a timer for 35 minutes to work out. If he finishes his work out after 32.84 minutes, how much time is left the timer?

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples	
MULTIPLYING decimals	To multiply decimals:	
	❶	Line up the factors so that the last digit in each number align.
	❷	Multiply as you would with whole numbers.
	❸	Find the total number of digits past the decimal in each factor. The product will have this number of digits past the decimal.
	EXAMPLE 1	4.68 × 8
MC EXAMPLE	EXAMPLE 2	0.9 × 0.3
	EXAMPLE 3	5.8 × 2.2
	EXAMPLE 4	1.3(12.452)
	1. 7.65 × 2	2. 2.178(15)
	3. 0.6(0.3)	4. 1.02 × 0.8

5. $0.005(0.04)$

6. 13.84×0.97

7. 8.1×3.72

8. $1.9(12.408)$

9. $0.0032(14.9)$

10. 4×16.25

APPLICATIONS

11. A plant is growing at a rate of 0.65 inches each day. How much change in the height of the plant will there be in 12 days?

12. Alana bought 2.45 pounds of oranges. If the oranges cost \$1.39 per pound, find the total cost.

13. Greg's car gets approximately 18.9 miles to the gallon. If he is trading in his car for a new car that gets 1.25 times this, how many miles per gallon does the new car get?

14. Pumpkins cost \$0.79 per pound at the fall carnival. If Misha picks out a pumpkin that weighs 21.82 pounds and pays with \$20 bill, how much change will she receive?

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 10: Multiplying Decimals

Directions: Find each product.

1. 2.87×9

2. 0.62×0.45

3. 0.008×15.4

4. $5.17(21.2)$

5. $6.8(0.0024)$

6. $3.1(1.526)$

7. A bottle of water contains 16.9 ounces. How many total ounces of water are there in a case with 24 bottles?
8. Natalya's credit card offers cash back rewards. If she receives \$0.04 back for each dollar spent, how much cash back will she receive if she charges \$861.95?

9. A package of turkey weighs 0.8 pounds and 1.45 pounds of ham from the deli. If turkey costs \$6.49 per pound and ham costs \$4.85 per pound, what is the total cost?

10. Abraham ran 3.18 miles on Monday. On Tuesday, he ran 1.6 times further than he did on Monday. How many more miles did he run on Tuesday than on Monday?

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

DIVIDING by Whole Numbers

Recall: The first number, or top number, is called the **dividend** and goes in the box.

The second number, or bottom number, is called the **divisor** and goes outside the box.

To divide a number by a whole number:

- 1 Slide the decimal up.
- 2 Divide as if you are dividing whole numbers.
- 3 Insert zeros in the dividend when necessary.

EXAMPLE 1

$$42.3 \div 9$$

EXAMPLE 2

$$6$$

EXAMPLE 3

EXAMPLE 4

$$\begin{array}{r} 0.72 \\ 18 \end{array}$$

EXAMPLE 5

$$43.26 \div 3$$

EXAMPLE 6

$$\begin{array}{r} 1.52 \\ 8 \end{array}$$

APPLICATIONS

1. If 50.4 ounces of lemonade is poured equally into 8 cups, how many ounces are in each cup?

2. Eliza paid \$16.80 for a 40-pound bag of dog food. Find the cost per pound.

3. Marcy pays per text message that she sends. If she sent text messages last month and paid \$16.12, how much does she pay per message?

and her sisters went out to eat. The bill came to \$47.22 and they shared the bill equally, how much will did each person pay?

It took a runner 11.4 seconds to run 100 yards. How many seconds on average did it take the runner to run each yard? Round to the nearest hundredth of a second.

6. There are 11 servings in an 86.4-ounce bottle of orange juice. How many ounces of juice are there per serving? Round to the nearest hundredth of an ounce.

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

DIVIDING
by decimals

To divide a number by a decimal:

- ① Make the divisor a whole number by moving the decimal over.
- ② Move the decimal over in the dividend the same number of places as you did with the divisor. Insert zeros if necessary.
- ③ Rewrite the problem and divide.

EXAMPLE 1 $27.2 \div 1.6$

EXAMPLE 2 $\frac{1.8}{1.8}$

EXAMPLE 3 12

EXAMPLE 4 $29.25 \div 2.4$

EXAMPLE 5 $\frac{30}{0.08}$

EXAMPLE 6 $44.1 \div 2.45$

APPLICATIONS

1. A tower of blocks is 18.2 inches tall. If each block is 0.7 inches tall, how many blocks are there?

2. Nick used 15.5 gallons of gas to drive 334.8 miles. On average, how many miles did he drive per gallon of gas?

3. Jelly beans cost \$6.45 per pound. If Marcus spent \$7.74 on jelly beans, how many pounds did he buy?

4. It costs \$0.80 to drive on a certain section of highway. If a car pays \$50, how many times can it drive on this section of the highway?

5. Trina is cutting ribbon to make bows. She has 7.5 yards of ribbon and she needs 0.4 yards for each bow, how many bows can she make?

6. If a quarter is 0.07 inches thick, what is the minimum number of quarters needed to make a stack that is at least 2 inches tall?

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 11: Dividing Decimals

**** This is a 2-page document! ****

Directions: Find each quotient.

1. $26.6 \div 7$

2. $\frac{13.2}{8}$

3. $\frac{49.28}{4}$

4. $\frac{15}{15}$

5. $32.4 \div 4.5$

6. $18.2 \div 1.75$

7. 5.13

8. $5.166 \div 6.3$

9. $\frac{28.9}{4.25}$

10. $\frac{81}{0.72}$

11. Nine packs of crayons cost \$21.51. Find the cost of each pack of crayons.

12. Sound travels approximately 1,100 miles per minute. How many minutes does it take for someone's hearing under is it still 85 miles away?

13. It took Elijah 2.4 hours to run 12.8 miles. How many miles did he run each hour if he maintained a constant speed?

At the end of a night, there was \$48.60 in the jar at the coffee shop. If there are five employees and they split the tips equally, how much money will get employee get?

How many stamps did Michaela purchase with \$1.12 if each stamp costs \$0.28?

16. It cost \$13.40 for 4.5 pounds of chicken. How much did it cost per pound? Round your answer to the nearest cent.



DECIMAL OPERATIONS



ADDING & SUBTRACTING DECIMALS

1. $13.96 + 4.025$

2. $120 - 34.82$

3. $47.58 + 121.7$

MULTIPLYING DECIMALS

4. 17.6×9.8

5. $18.23(0.64)$

6. 1.7×1.35

DIVIDING DECIMALS

7. $142.2 \div 6$

8. $\frac{3.1}{4}$

9. $\frac{27}{2.5}$

10. 0.04

11. $\frac{18.72}{1.6}$

12. $1.35 \div 0.003$

MIXED OPERATIONS

13. $18.1 - 16 \times 0.28$

14. $5.65 \div 0.2 + 3.075$

15. $17.2(3 - 2.58)$

APPLICATIONS

16. During a hot dog eating contest, Alan ate 23.9 hot dogs in 5 minutes. How many hot dogs did he average each minute?

17. The cab bill for a large group was \$125.96. If the waiter added a tip in the amount of \$19.00, how much will the group pay in total?

18. There are 14.2 gallons of water in a fish tank. If 3.518 gallons are drained, how much water is left in the tank?

A cab driver charges \$2.19 per mile driven. How much will the driver charge for an 8.3-mile ride? Round to the nearest cent.

Sasha deposited \$100 in her daughter's school lunch account. If each lunch costs \$2.60, how many lunches can her daughter buy?

21. Each step on a stairway is 7.2 inches tall. If there are 18 steps, find the total height.

APPLICATIONS WITH DECIMAL OPERATIONS

Ready Puzzle!

Directions: Solve each problem. Use the arrows to guide you through the page. Use the answer from the previous problem to fill in the blank in the next problem. Work through the page until you reach the end.

START! 1 Alex watched two movies. Movie A was 81.95 minutes long and Movie B was 120.2 minutes long. How many minutes longer was Movie B than Movie A?	2 Chicken costs \$8.50 per pound at the grocery store. If Chloe paid \$_____ for chicken, how many pounds did she buy?	3 A vehicle is traveling at 12.2 miles per second. How many miles will the car travel in _____ seconds?
6 Rick's credit card balance is \$_____. If he is credited \$68.18 for a refund, then charges \$27.86 for his lunch, find his new balance.	5 Lora caught 3 fish, one weighed _____ pounds and the other weighed 77.5 ounces. Find the combined weight.	4 Amara has two dogs, Max and Sam. Max weighs 1.8 times more than Sam. If Max weighs _____ pounds, how much does Sam weigh?
7 Manny spent \$_____ filling up his gas tank. If it cost \$2.50 per gallon of gas, how many gallons did he purchase?	8 A letter weighs _____ ounces. How much will it cost to mail the letter if it costs \$0.05 per ounce? Round to the nearest cent.	9 Mr. Rizzo has \$85 to buy notebooks for his science students. If they cost \$_____ each, how many can he purchase?
12 Dane bought 3 pencils for \$0.18 each and 6 markers for \$2.65 each at the store. How much did he pay in total?	11 If _____ pounds of sand is poured into buckets, and each bucket can hold no more than 4 pounds, what is the minimum number of buckets needed?	10 There were _____ ounces of dish soap in a bottle. If 13.68 ounces are poured out, how much soap is left in the bottle?
END!		

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 12: All Decimal Operations

**** This is a 2-page document! ****

Directions: Find each sum, difference, product, or quotient.

1. $141.2 - 79.83$

2. $38.125 + 17.9$

3. $136.842 + 91.07$

4. 48×0.35

5. $22.4(6.12)$

6. $836(0.001)$

7. $11.68 \div 4$

8. $\frac{8}{12}$

9. $9.8 \div 3.5$

10. $\frac{0.87}{100}$

11. $5.8 \div 0.08$

12. $\frac{54}{12.5}$

13. $44.1 \div 3 \times 0.75$

14. $(0.98 + 15.1) \div 0.4$

15. Eric earns \$8.30 per hour at work. If he worked 16.85 hours this past week, how much will he earn? Round to the nearest cent.

16. Jess bought 4 yards of fabric and paid \$24.96. How much did she pay per yard?

17. A gauge on Sam's car indicates that he has 178.8 miles left until his gas tank is empty. If he drives 60.25 miles to visit his mother, then 83.9 miles to visit his friend, how many miles does he have left to go home?

Mia likes to practice her multiplication facts. If she can correctly answer one problem every 0.048 minutes, how many problems can she correctly answer in 3 minutes?

Six friends are splitting the cost to rent a boat. If the total cost is \$194.20, how much will each person pay? Round to the nearest cent.

20. Vance ran 5.4 miles on Saturday. If he ran 1.2 times further on Sunday than he did on Saturday, find the total distance he ran on both days combined.

Name: _____

Math 6

Date: _____ Per: _____

Unit 3: Rational Numbers

Quiz 3-3: All Decimal Operations & Applications

Evaluate each expression.

1. $4.82 + 16.917$

2. $150 - 138.79 + 21.6$

3. 16.3×7.6

4. 0.192×40

5. $62.14(0.85)$

7. $20 \div 3.2$

8. $\frac{1.53}{0.09}$

9. $\frac{1}{1.2}$

10. $11.8 + 20.68 \div 8$

2. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

Directions: Read each problem carefully and solve.

11. An elevator is currently 16.9 feet off the ground. If it ascends 32.35 feet, then descends 7.8 feet, how far off the ground is the elevator?

11. _____

12. Beth is buying 2.6 pounds of coffee beans. If the coffee costs \$6.79 per pound, how much will she pay? Round to the nearest cent.

12. _____

13. A jug contains 74.1 ounces of fruit punch. If the punch is evenly distributed to six people, how many ounces will each person get?

13. _____

14. Josh ran 8 miles in June. In July, he ran 0.55 times this distance due to an injury. How many miles did he run in June than in July?

14. _____

15. _____

15. A man has 65.8 meters of wire. If he is cutting the wire into pieces that are 1.6 meters long, how many pieces can he cut?

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples		
RATIONAL NUMBER	Recall that any number that can be written as a fraction is called a rational number . Therefore, any decimal that can be written as a fraction is also a rational number.		
Writing DECIMALS as FRACTIONS	To write a decimal as a fraction: ➤ READ IT (to determine place value) ➤ WRITE IT (using the place value as the denominator) ➤ REDUCE IT (simplify if possible)		
	Write each decimal as a fraction and reduce to simplest form.		
	1. 0.8	2. 1.3	3. 0.12
	4. 9.75	5. 2.05	6. 0.375
	7. 16.1	8. 3.3	9. 5.225
	Case 1: THE DENOMINATOR IS 10, 100, 1000, ETC. Decimals can be written as a fraction using the place value.		
Writing FRACTIONS as DECIMALS	10. $\frac{7}{10}$	11. $11\frac{39}{100}$	12. $4\frac{9}{1000}$
	Case 2: ANY OTHER DENOMINATOR Divide the numerator by the denominator.		
	13. $\frac{7}{8}$	14. $5\frac{3}{4}$	15. $\frac{11}{5}$

16. $\frac{11}{50}$

17. $1\frac{7}{25}$

18. $\frac{57}{16}$

Non-Terminating DECIMALS

- A decimal that ends is called a **terminating decimal**.
- Decimals that never end are called **non-terminating decimals**.
- Non-terminating decimals that have a pattern are called **repeating decimals**. These decimals can be written using bar notation.

$$0.333333... = \frac{\quad}{\quad} \quad 1.727272... = \frac{\quad}{\quad} \quad 16.25454... = \frac{\quad}{\quad}$$

Write each fraction or mixed number as a decimal using bar notation for repeating decimals.

19. $\frac{2}{9}$

20. $3\frac{7}{11}$

21. $\frac{1}{8}$

22. $\frac{34}{15}$

23. $6\frac{7}{18}$

24. $\frac{53}{12}$

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

Comparing FRACTIONS & DECIMALS

- One way to compare fractions and decimals is to convert them to _____ and compare using place value.
- **Example:** Elena and Rory each ordered a personal pizza. Elena ate $\frac{11}{15}$ of her pizza and Roy ate 0.78 of his pizza. Who ate the greater portion of their pizza?

Compare the numbers by placing <, >, or = symbol in the circle.

1. 0.62 $\frac{5}{8}$

2. $2\frac{1}{6}$

3. $1\frac{7}{9}$

4. $0.06\bar{8}$ $\frac{5}{12}$

5. $7\frac{1}{5}$ $7.\bar{2}$

6. $\frac{17}{7}$ $2.\bar{45}$

Ordering
**FRACTIONS
& DECIMALS**

7. During a snowstorm, Buffalo got $2\frac{7}{16}$ feet of snow and Rochester got 2.319 feet of snow. Which city got more snow?

8. In the past year, Aidan grew 1.68 inches and Greg grew $1\frac{2}{3}$ inches. Who grew the most?

9. Order from least to greatest: $\frac{4}{9}$, 0.4, $\frac{1}{3}$

10. Order from least to greatest: 1.8, $1\frac{4}{5}$, 1.095

11. Order from least to greatest: $\frac{8}{25}$, 0.095, $0.\bar{3}$, $\frac{3}{10}$

12. Jared, Kyra, and Rigel shot hoops for two rounds. The table to the left shows the fraction of the shots they made. Which student(s) shot a better second round than the first round?

	Round 1	Round 2
Jared	0.64	$\frac{1}{3}$
Kyra	0.375	$\frac{2}{5}$
Rigel	0.31	$\frac{4}{13}$

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 13: Fractions & Decimals

**** This is a 2-page document! ******Directions:** Write each decimal as a fraction or mixed number in simplest form.

1. 1.4

2. 3.25

3. 0.62

4. 7.44

5. 11.125

6. 2.4

Directions: Write each fraction or mixed number as a decimal.7. $\frac{3}{8}$ 8. $3\frac{7}{20}$ 9. $1\frac{4}{5}$ 10. $\frac{8}{15}$ 11. $1\frac{4}{9}$ 12. $1\frac{11}{12}$ **Directions:** Compare the numbers by placing a <, >, or = symbol in the circle.13. $2\frac{1}{3}$ ○ $2\frac{1}{4}$ 14. $3\frac{10}{11}$ ○ 3.90815. $1\frac{3}{40}$ ○ 1.1

16. $2.\overline{125}$ ☐ $\frac{19}{9}$

17. $4.\overline{4}$ ☐ $4\frac{2}{5}$

18. $1.\overline{31}$ ☐ $\frac{21}{16}$

19. Carina and Rylee ran a mile in gym class. It took Carina 7.18 minutes and Rylee $7\frac{4}{25}$ minutes to complete. Who ran the quickest?

20. Max has two cats, Rex and Ron. If Rex weighs 11 pounds and Ron weighs 11.329 pounds, which cat weighs the most?

21. Order the following numbers from least to greatest: 1.095, 1.83, $1\frac{13}{15}$, $1\frac{6}{7}$

The table below shows the amount of rainfall, in inches, each month from March through June. Order the months from greatest to least in terms of the amount of rainfall.

Month	Rainfall
March	2.06
April	$2\frac{2}{11}$
May	$2\frac{1}{6}$
June	2.108

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples	
negative RATIONAL NUMBERS	Rational numbers can also be negative. Write a rational number for each situation.	
	1. 25.2 feet below the water level	
	2. a $9\frac{2}{3}$ foot gain in elevation	
	3. a \$1.60 tax	
	4. $2\frac{5}{8}$ degrees below zero	
	5. a \$42.95 withdrawal	
	6. using $14\frac{3}{5}$ ounces of shampoo	
	7. an \$18.71 deposit	
	8. beating a run record by $3\frac{11}{16}$ seconds	
ABSOLUTE VALUE	Recall that absolute value is a number's distance from zero. We use bars around a number when finding its absolute value.	
	9. $ \frac{1}{4} $	11. $ -2\frac{9}{20} $
	12. $ -1\frac{1}{2} $	14. $ -8.2 $
	13. $ -0.703 $	
COMPARING negative rational numbers	Use the number line to compare the values below.	
	15. $-2\frac{1}{4}$ and $-1\frac{1}{2}$ 	16. -0.08 and -0.35
	To compare negative rational numbers, write both numbers as: _____ (fractions with the same denominator) OR _____ (to compare place value)	
	Think about where the numbers would fall on a number line. The number closer to zero is the larger number.	

Compare the numbers by placing a $<$, $>$, or $=$ symbol in the circle.

17. $-\frac{4}{9}$ $-\frac{1}{9}$

18. $-1\frac{5}{8}$ $-1\frac{3}{4}$

19. -2.09 -2.21

20. -15.8 -15.82

21. -2.3 $-2\frac{1}{3}$

22. -1.2 -1.28

23. -7.4 $-7\frac{1}{4}$

24. $-3\frac{5}{6}$ -3.8

Order the numbers from least to greatest.

25. $-\frac{1}{6}, -\frac{1}{3}, -\frac{1}{5}$

26. $-4.2, -4\frac{1}{9}, -4.08$

27. $-\frac{3}{7}, -0.5, -1\frac{1}{5}$

28. $-3\frac{2}{5}, -3\frac{3}{8}, -3.04$

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 14: Negative Rational Numbers

Directions: Find each absolute value.

1. $|2.675|$

2. $|-1\frac{3}{5}|$

3. $|9\frac{1}{10}|$

4. $|-5.04|$

Directions: Compare the numbers by placing a $<$, $>$, or $=$ symbol in the circle.

5. $-\frac{2}{15} \bigcirc -\frac{11}{15}$

6. $-2\frac{2}{3} \bigcirc -2\frac{5}{9}$

7. $-\frac{19}{20} \bigcirc$

8. $-0.64 \bigcirc -0.81$

9. $-7.17 \bigcirc -7.1\bar{6}$

10. $-10.02 \bigcirc -10.7$

11. $-4.35 \bigcirc -4\frac{1}{5}$

12. $-0.27 \bigcirc -\frac{9}{25}$

13. $-3\frac{7}{8} \bigcirc -3.875$

14. $-11\frac{1}{9} \bigcirc -11.16$

15. $-1.9 \bigcirc -1\frac{13}{15}$

16. $-8\frac{1}{12} \bigcirc -8.01$

Directions: Order the numbers from least to greatest.

17. $-\frac{7}{50}, -0.08, -\frac{1}{8}$

18. $-2\frac{7}{11}, -2\frac{2}{3}, -2\frac{5}{8}$

Unit 3 Test Study Guide (Rational Numbers)

Name: _____

Date: _____ Per: _____

Topic 1: Fraction Operations

Directions: Evaluate. Write each answer as a fraction or mixed number in simplest form.

1. $1\frac{1}{6} + \frac{3}{4}$

2. $6\frac{1}{10} - 1\frac{7}{12}$

3. $3\frac{8}{9} - 1\frac{3}{10} + \frac{5}{6}$

4. $2\frac{5}{8} \cdot \frac{4}{15}$

5. $3\frac{5}{9} \cdot 1\frac{17}{28}$

6. $\frac{3}{10} - 2\frac{1}{15}$

7. $\frac{14}{15} \div \frac{10}{21}$

8. $1\frac{13}{15} \div 9\frac{3}{5}$

9. $3\frac{3}{4} \div 6 + 2\frac{7}{12}$

Topic 2: Decimal Operations

Directions: Evaluate.

10. $45.6 - 95.91$

11. $46.2 - 9.048$

12. $116(2.3)$

13. $7.4(6.28)$	14. $8.75(0.09)$	15. $51.3 - 4.7(9.8)$
16. $19.6 \div 7$	17. $\frac{90.72}{18}$	18. $\frac{2}{0.6}$
19. $5.11 \div 3.65$	20. $\frac{12.25}{1}$	21. $2.12 \div 0.008 - 72.87$

Topic 7 Application with Fractions & Decimal Operations

Directions: Solve. Write each answer as a fraction or mixed number in simplest form.

Naomi needs pieces of yarn for a craft project. She has $2\frac{2}{9}$ yards of string and the piece needs to be $\frac{2}{15}$ yards long, how many pieces can she cut?	23. Jill ran $12\frac{1}{12}$ miles on Friday and $4\frac{5}{9}$ miles on Sunday. How many more miles did she run on Friday than on Sunday?
---	--

24. Lia is snorkeling with her brother Tom. If Lia is $5\frac{7}{10}$ feet below the surface of the water and Tom is $1\frac{1}{3}$ times further this distance, how many feet below the surface of the water is Tom?

25. Colin started a new book on Monday. If he read $\frac{1}{8}$ of the book on Monday and $\frac{7}{20}$ of the book on Tuesday, what fraction of the book does he have left?

26. Erin combined $1\frac{17}{18}$ pounds of peanuts with $1\frac{5}{6}$ pounds of M&M's to create trail mix, then evenly distributed the mix into 8 bags. How many pounds of trail mix are in each bag?

27. Tyler has $\frac{9}{16}$ pounds of raisins. He uses $\frac{2}{3}$ of the raisins to make raisin bread. How many pounds of raisins does he have left?

Directions: Solve.

28. On a certain day, the high temperature was 91.4 degrees and the low temperature was 75.92 degrees. Find the change in the temperature that day.

Trone swam 4 laps of the pool in 6.2 minutes. How many minutes did it take him to swim each lap?

Natalie burns 8.7 calories per minute running. If she runs for 45.2 minutes, how many calories does she burn?

31. Frank has a gas can with 5 gallons of gas. If he uses 0.36 gallons each time he cuts the grass, how many times can he cut the grass?

32. What is the minimum number of rows of bricks needed to build a wall that is at least 4 feet tall if each brick is 2.25 inches tall?

33. The salad bar at the grocery store costs \$5.95 per pound. If Gary makes a salad that weighs 1.3 pounds and pays with a \$20 bill, how much change will he receive? Round to the nearest cent.

Topic 4: Fractions vs. Decimals

Directions: Write each decimal as a fraction or mixed number in simplest form.

34. 1.2

35. 0.84

36. 0.175

Directions: Write each fraction or mixed number as a decimal.

37. $2\frac{5}{8}$

38. $\frac{7}{8}$

39. $\frac{43}{9}$

Directions: Compare by placing a <, >, or = symbol in the circle.

40. 1.197 $1\frac{2}{5}$

41. $\frac{11}{15}$ 0.73

42. $2\frac{9}{14}$ $2.\bar{6}$

- 43.** The table below shows the amount of time, in hours, that three students spent studying for their math test. Which student spent the most time studying?

Elena	$1\frac{4}{7}$
Mina	1.56
Darrell	$1\frac{7}{12}$

- 44.** Order from least to greatest: $0.\overline{45}$, $\frac{9}{20}$, $\frac{4}{9}$

Topic 5: Negative Rational Numbers

Directions: Find each absolute value.

45. $|4.07|$

46. $|-2\frac{1}{6}|$

47. $|\frac{11}{15}|$

48. $|-0.832|$

Directions: Compare by placing a $<$, $>$, or $=$ symbol in the circle.

49. $-\frac{3}{4} \bigcirc -\frac{17}{20}$

50. $-1\frac{5}{12} \bigcirc -\frac{1}{8}$

51. $5 \bigcirc -4.087$

52. $-3\frac{1}{6} \bigcirc -3.2$

53. $-2.08 \bigcirc -2\frac{2}{25}$

54. $-4\frac{2}{3} \bigcirc -4.6$

55. Order from least to greatest:

$-\frac{7}{25}$, -0.35 , -0.2

56. Order from greatest to least:

$-2\frac{1}{3}$, -2.61 , $-2\frac{2}{5}$

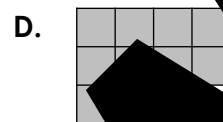
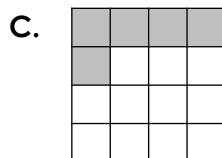
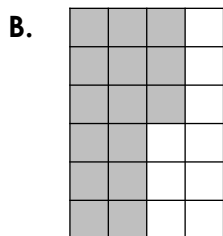
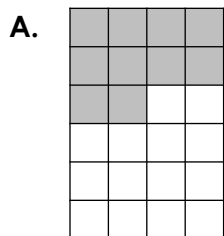
Name: _____

Date: _____ Per: _____

Unit 3 Test

Rational Numbers

1. Which model is equivalent to the fraction $\frac{5}{8}$?



Evaluate. Write each answer as a fraction in simplest form. Use a mixed number when possible.

2. $\frac{5}{6} + 1\frac{7}{15}$

3. $1\frac{1}{2} - \frac{2}{8}$

4. $\frac{6}{25} \cdot \frac{5}{8}$

7. $2\frac{2}{3} + \frac{9}{4} \div 3$

8. Samantha ran one mile in $8\frac{7}{8}$ minutes. This was $1\frac{3}{10}$ minutes longer than her friend Marissa's time. What was Marissa's time?

- A. $7\frac{27}{40}$ minutes C. $7\frac{13}{20}$ minutes
B. $7\frac{23}{40}$ minutes D. $7\frac{11}{20}$ minutes

9. A stretch of the highway between Exit A and Exit B is $16\frac{8}{9}$ miles long. If a car has driven $\frac{3}{4}$ of the way from Exit A to Exit B, how far is the car from Exit A?

- A. $12\frac{5}{6}$ miles C. $9\frac{7}{18}$ miles
B. $12\frac{2}{3}$ miles D. $9\frac{11}{12}$ miles

10. If $4\frac{1}{6}$ ounces of red paint is combined with $2\frac{1}{2}$ ounces of yellow paint to create orange paint, how many ounces of orange paint are in the mixture?

- A. $7\frac{29}{30}$ ounces C. $8\frac{1}{10}$ ounces
B. $7\frac{14}{15}$ ounces D. $7\frac{1}{15}$ ounces

11. Derek has 4 rolls of wire. Each roll of wire is $17\frac{5}{8}$ feet long. If he needs to cut the wire into pieces that are $\frac{1}{8}$ feet long, how many pieces of wire can he cut using these 4 rolls of wire?

- A. 16 pieces
B. 48 pieces
C. 60 pieces
D. 62 pieces

Evaluate. Write each answer as a decimal.

12. $21.253 - 9.98$

13. 0.74×12.55

14. $3.2(7.419)$

15. $2.02 \div 9$

16. $\frac{45.2}{1.6}$

17. $16.5 \div 0.04$

18. Callie is buying a TV that costs \$648.87 in total with tax. If she pays for the TV in four equal monthly payments, how much, to the nearest cent, will she pay each month?

19. The total rainfall in a certain city was 29.785 inches last year. This was 1.08 inches less than the average annual rainfall. Find the average annual rainfall.

20. Blair is buying strawberries and bananas to make smoothies. Strawberries cost \$1.80 per pound and bananas cost \$0.55 per pound. If she buys 3.25 pounds of strawberries and 2.6 pounds of bananas and pays with a \$20 bill, how much change will she receive?

21. Andy is buying wooden boards that are 0.45 feet wide to build a deck. How many rows of boards are needed to cover a space that is 20 feet wide?

- A. 44 boards
- B. 46 boards
- C. 47 boards
- D. 49 boards

22. Write the mixed number in simplest form:

5.7

23. Write as a decimal:

$$1\frac{3}{16}$$

24. Write as a decimal:

$$4\frac{7}{30}$$

25. Which values are less than 0.324? Check all that apply.

☐ $\frac{7}{20}$	☐ $\frac{4}{15}$
☐ $\frac{13}{40}$	☐ $\frac{5}{12}$
☐ 0.09	☐ 0.1

26. Which statement is true?

- A. $2.08 > 2\frac{1}{5}$
- B. $\frac{5}{16} = 0.32$
- C. $1\frac{12}{25} < 1.45$
- D. $\frac{2}{9} > 0.2$

27. If the list of numbers is ordered from **least to greatest**, which number goes in the box?

- A. $\frac{1}{2}$
- B. $1\frac{9}{11}$
- C. $\frac{5}{4}$
- D. $1\frac{17}{20}$

28. Which statement is true?

- A. $|-6.2| = 6.2$
- B. $|6.2| = -6.2$
- C. $|\frac{1}{4}| = \frac{1}{4}$
- D. $|\frac{1}{4}| = -\frac{1}{4}$

Which value is the greatest?

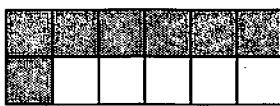
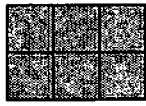
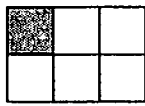
- A. -1.25
- B. -0.85
- C. $-\frac{2}{3}$
- D. $-\frac{7}{10}$

Four values are shown below. List the values in order from **greatest to least** using the letters.

	-1.5
B	$1\frac{1}{6}$
C	$-1\frac{1}{3}$
D	-1.09

_____	_____	_____	_____
-------	-------	-------	-------

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples	
FRACTIONS	We can use fractions when describing a part of a whole. Use a fraction to describe the model below.  This fraction is read as <u>Eight twelfths</u>.	
PARTS of a FRACTION	Numerator $\rightarrow \frac{2}{3}$ Denominator $\leftarrow$	
RATIONAL NUMBERS	All fractions or numbers that can be written as fractions.	
Mixed NUMBERS	A mixed number is a number consisting of a whole number greater than 0 and a fraction. Use a mixed number to represent the model below:   $\Rightarrow 1\frac{1}{6}$	
IMPROPER FRACTIONS	An improper fraction is a fraction in which the numerator is greater than the denominator. Use an improper fraction to represent the model below:   $\Rightarrow \frac{7}{6}$	
CONVERTING between FORMS	To write a mixed number as an improper fraction: Multiply the denominator with the whole number, then add the numerator. Keep the denominator. $2\frac{3}{5} = \frac{13}{5}$	
	Write each mixed number as an improper fraction.	
	1. $4\frac{1}{2}$ $\frac{9}{2}$	2. $7\frac{2}{3}$ $\frac{23}{3}$

4. $1\frac{3}{14}$

$$\frac{17}{14}$$

5. $4\frac{9}{10}$

$$\frac{49}{10}$$

6. $3\frac{7}{12}$

$$\frac{43}{12}$$

To write an improper fraction as a mixed number:
Divide the numerator by the denominator. The quotient is the whole number and the remainder is the numerator of the fraction. Keep the denominator.

Write each improper fraction as a mixed number.

7. $\frac{17}{4}$

$$\begin{array}{r} 4 \overline{)17} \\ -16 \\ \hline 1 \end{array}$$

$$\boxed{4\frac{1}{4}}$$

8. $\frac{13}{9}$

$$\begin{array}{r} 1 \overline{)13} \\ -9 \\ \hline 4 \end{array}$$

$$\boxed{1\frac{4}{9}}$$

9. $\frac{43}{12}$

$$\begin{array}{r} 3 \overline{)43} \\ -36 \\ \hline 7 \end{array}$$

$$\boxed{3\frac{7}{12}}$$

10. $\frac{26}{3}$

$$\begin{array}{r} 8 \overline{)26} \\ -24 \\ \hline 2 \end{array}$$

$$\boxed{8\frac{2}{3}}$$

11. $\frac{32}{15}$

$$\begin{array}{r} 2 \overline{)32} \\ -30 \\ \hline 2 \end{array}$$

$$\boxed{2\frac{2}{15}}$$

12. $\frac{38}{7}$

$$\begin{array}{r} 5 \overline{)38} \\ -35 \\ \hline 3 \end{array}$$

$$\boxed{5\frac{3}{7}}$$

SIMPLEST FORM

A fraction is in simplest form when the greatest common factor (GCF) of the numerator and denominator is 1. To write a fraction in simplest form, divide the numerator and denominator by the GCF.

$$\frac{15}{24} = \frac{15 \div 3}{24 \div 3} = \frac{5}{8}$$

Simplify the answer as a mixed number when possible.

13. $\frac{6}{8} \div 2$

$$\boxed{\frac{3}{4}}$$

14. $\frac{5}{15} \div 5 = \boxed{\frac{1}{3}}$

15. $\frac{4}{32} \div 4 = \boxed{\frac{1}{8}}$

16. $1\frac{4}{10} = \boxed{1\frac{2}{5}}$

17. $5\frac{8}{12} = \boxed{5\frac{2}{3}}$

18. $2\frac{32}{40} = \boxed{2\frac{4}{5}}$

19. $\frac{24}{16} = \frac{3}{2} = \boxed{1\frac{1}{2}}$

20. $\frac{18}{15} = \frac{6}{5} = \boxed{1\frac{1}{5}}$

21. $\frac{42}{12} = \frac{7}{2} = \boxed{3\frac{1}{2}}$

Name: _____

Unit 3: Rational Numbers

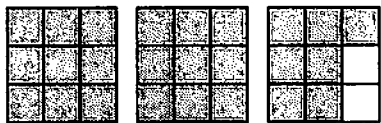


Date: _____ Per: _____

Homework 1: Writing & Simplifying Fractions

Directions: Describe each model using (a) a mixed number and (b) an improper fraction.

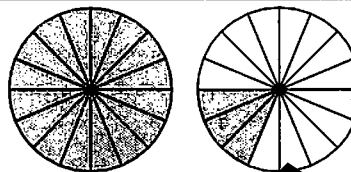
1.



a) $2\frac{7}{9}$

b) $\frac{25}{9}$

2.



a) $1\frac{10}{12}$

Directions: Write each number as an improper fraction.

3. $2\frac{1}{6}$

$\frac{13}{6}$

4. $1\frac{2}{7}$

$\frac{9}{7}$

5. $6\frac{3}{4}$

$\frac{27}{4}$

6.

$\frac{41}{12}$

Directions: Write each fraction as a mixed number.

7. $\frac{8}{3}$

$$\begin{array}{r} 2\overline{)8} \\ -6 \\ \hline 2 \end{array}$$

$2\frac{2}{3}$

8. $\frac{29}{10}$

$$\begin{array}{r} 2\overline{)29} \\ -20 \\ \hline 9 \end{array}$$

$2\frac{9}{10}$

$$\begin{array}{r} 7\overline{)47} \\ -42 \\ \hline 5 \end{array}$$

$7\frac{5}{7}$

10. $\frac{13}{4}$

$$\begin{array}{r} 3\overline{)13} \\ -12 \\ \hline 1 \end{array}$$

$3\frac{1}{4}$

11. $\frac{34}{5}$

$$\begin{array}{r} 6\overline{)34} \\ -30 \\ \hline 4 \end{array}$$

$6\frac{4}{5}$

12. $\frac{62}{7}$

$$\begin{array}{r} 8\overline{)62} \\ -56 \\ \hline 6 \end{array}$$

$8\frac{6}{7}$

Directions: Simplify. Write your answer as a mixed number when possible.

13. $\frac{16}{28}$

$= \frac{4}{7}$

14. $\frac{18}{45}$

$= \frac{2}{5}$

15. $\frac{24}{32}$

$= \frac{3}{4}$

16. $2\frac{6}{48}$

$= 2\frac{1}{8}$

17. $1\frac{15}{18}$

$= 1\frac{5}{6}$

18. $8\frac{12}{54}$

$= 8\frac{2}{9}$

19. $\frac{42}{7}$

$= 6$

20. $\frac{66}{48}$

$= \frac{11}{8} = 1\frac{3}{8}$

21. $\frac{120}{36}$

$= \frac{10}{3} = 3\frac{1}{3}$

22. $\frac{63}{48}$

$= \frac{21}{16} = 1\frac{5}{16}$

23. $\frac{86}{20}$

$= \frac{43}{10} = 4\frac{3}{10}$

24. $\frac{87}{12}$

$= \frac{29}{4} = 7\frac{1}{4}$

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples
Equivalent Fractions	Fractions that represent the same value are equivalent fractions. $\frac{1}{2} = \frac{2}{4} = \frac{4}{8}$
Writing Equivalent Fractions	To create equivalent fractions, multiply the numerator and denominator by the same number. List two equivalent fractions: $\frac{3}{4} = \frac{6}{8} = \frac{12}{16}$
	Give two equivalent fractions for each fraction. 1. $\frac{4}{5}$ $\frac{20}{25}, \frac{12}{15}$ 2. $\frac{11}{12}$ $\frac{22}{24}, \frac{33}{36}$ 3. $\frac{14}{9}$ $\frac{42}{27}, \frac{70}{45}$
	Write a number in the box that makes the fractions equivalent. 4. $\frac{1}{2} = \frac{3}{\boxed{6}}$ 5. $\frac{15}{20} = \frac{3}{\boxed{4}}$ 6. $\frac{16}{18} = \frac{8}{\boxed{9}}$ 7. $\frac{12}{\boxed{18}} = \frac{2}{3}$ 8. $\frac{\boxed{16}}{40} = \frac{2}{5}$ 9. $\frac{7}{3} = \frac{42}{\boxed{18}}$
	To determine if fractions are equivalent, simplify both fractions. Determine if the given pair of fractions are equivalent. 10. $\frac{4}{12}, \frac{2}{6}$ $\frac{2}{3}, \frac{2}{3}$ Yes! 11. $\frac{1}{4}, \frac{4}{20}$ $\frac{1}{4}, \frac{1}{5}$ No! 12. $\frac{6}{18}, \frac{5}{15}$ $\frac{1}{3}, \frac{1}{3}$ Yes! 13. $\frac{21}{18}, \frac{21}{14}$ $\frac{3}{2}, \frac{3}{2}$ Yes! 14. $\frac{18}{24}, \frac{6}{10}$ $\frac{3}{4}, \frac{3}{5}$ No! 15. $\frac{21}{9}, \frac{28}{12}$ $\frac{7}{3}, \frac{7}{3}$ Yes!
Like Fractions	Fractions with the same denominator Example: $\frac{5}{6}, \frac{11}{6}, 3\frac{1}{6}$

UNlike FRACTIONS	Fractions with different denominators Example: $\frac{7}{11}, \frac{2}{9}, \frac{6}{5}, 4\frac{1}{3}$
COMPARING FRACTIONS	Given Fraction A = $\frac{3}{4}$ and Fraction B = $\frac{5}{6}$, which fraction is greater? To compare, we can rewrite them as like fractions using a common denominator. Follow the steps below to compare Fraction A and Fraction B. - Find the least common multiple (LCM) of the denominators. LCM: 12 - Rewrite Fraction A using the LCM as the denominator. $\frac{3}{4} = \frac{9}{12}$ - Rewrite Fraction B using the LCM as the denominator. $\frac{5}{6} = \frac{10}{12}$ - Use a <, >, or = symbol to compare the fractions. $\frac{9}{12} < \frac{10}{12}$ Compare using a <, >, or = symbol. 16. $\frac{3}{7} > \frac{1}{3}$ LCM: 21 $\frac{4}{5} < \frac{13}{15}$ LCM: 15 $\frac{9}{21} \quad \frac{7}{21} \quad \frac{12}{15} \quad \frac{13}{15}$ 18. $\frac{10}{6} = \frac{5}{3}$ LCM: 12 $\frac{30}{12} = \frac{30}{12}$ 19. $\frac{5}{6} < \frac{23}{24}$ LCM: 24 $\frac{20}{24}$ 20. $\frac{8}{5} > \frac{17}{10}$ LCM: 20 $\frac{35}{20} \quad \frac{34}{20}$ 21. $\frac{8}{12} = \frac{10}{15}$ LCM: 60 $\frac{40}{60} \quad \frac{40}{60}$
ORDERING FRACTIONS	Order the fractions from least to greatest. 22. $\frac{1}{2}, \frac{2}{5}, \frac{7}{20}$ LCM: 20 $\frac{10}{20}, \frac{8}{20}, \frac{7}{20}$ $\frac{7}{20}, \frac{8}{20}, \frac{10}{20}$ 23. $\frac{5}{9}, \frac{2}{3}, \frac{11}{18}$ LCM: 18 $\frac{10}{18}, \frac{12}{18}, \frac{11}{18}$ $\frac{5}{9}, \frac{11}{18}, \frac{2}{3}$ Order the fractions from greatest to least. 24. $\frac{3}{5}, \frac{7}{10}, \frac{4}{6}$ LCM: 30 $\frac{18}{30}, \frac{21}{30}, \frac{20}{30}$ $\frac{18}{30}, \frac{20}{30}, \frac{21}{30}$ 25. $\frac{9}{4}, \frac{11}{6}, \frac{5}{2}$ LCM: 12 $\frac{27}{12}, \frac{22}{12}, \frac{30}{12}$ $\frac{27}{12}, \frac{30}{12}, \frac{22}{12}$

Name: _____

Unit 3: Rational Numbers



Date: _____ Per: _____

Homework 2: Equivalent Fractions;
Comparing & Ordering Fractions

Directions: Give two equivalent fractions for each fraction.

1. $\frac{7}{8}$

$\frac{14}{16}, \frac{21}{24}$

2. $\frac{4}{15}$

$\frac{8}{30}, \frac{12}{45}$

3. $\frac{19}{3}$

$\frac{38}{6}, \frac{57}{9}$

Directions: Write a number in the box that makes the fractions equivalent.

4. $\frac{5}{7} = \frac{\boxed{30}}{42}$

5. $\frac{12}{27} = \frac{4}{\boxed{9}}$

6. $\frac{\boxed{1}}{6} = \frac{1}{6}$

7. $\frac{2}{11} = \frac{8}{\boxed{55}}$

Directions: Determine whether the fractions are equivalent.

8. $\frac{24}{32}, \frac{14}{18}$

$\frac{3}{4}, \frac{7}{9}$

No!

9. $\frac{6}{16}, \frac{21}{56}$

$\frac{3}{8}, \frac{3}{8}$

Yes!

10. $\frac{45}{15}, \frac{27}{9}$

$\frac{3}{4}, \frac{3}{4}$

Yes!

Directions: Compare the fractions using a <, >, or = symbol. If the fractions are equivalent, write "equivalent fractions".

11. $\frac{3}{4} < \frac{4}{5}$

LCM: 20

$\frac{15}{20}$

$\frac{16}{20}$

12. $\frac{6}{9} = \frac{2}{3}$

LCM: 3

$\frac{2}{3}$

$\frac{2}{3}$

13. $\frac{3}{16} > \frac{1}{6}$

LCM: 48

$\frac{9}{48}$

$\frac{8}{48}$

14. $\frac{15}{4} > \frac{33}{9}$

LCM: 36

$\frac{135}{36}$

$\frac{132}{36}$

15. $\frac{25}{6} < \frac{13}{3}$

LCM: 6

$\frac{25}{6}$

$\frac{26}{6}$

16. $\frac{16}{9} = \frac{80}{45}$

LCM: 45

$\frac{80}{45}$

$\frac{80}{45}$

17. Order from least to greatest: $\frac{1}{4}, \frac{11}{8}, \frac{23}{6}$

$\frac{90}{72}, \frac{87}{72}, \frac{138}{72}$

$\frac{29}{8}, \frac{15}{4}, \frac{23}{6}$

18. Order from greatest to least: $\frac{4}{5}, \frac{11}{16}, \frac{31}{40}$

LCM: 80

$\frac{64}{80}, \frac{55}{80}, \frac{62}{80}$

$\frac{4}{5}, \frac{31}{40}, \frac{11}{16}$

19. Amy, Josh, and Rhea were each given the same number of raffle tickets to sell. The table below shows the fraction of their tickets that they sold. Who sold the fewest?

	Josh	Rhea
	$\frac{7}{12}$	$\frac{3}{5}$

LCM: 60

$\frac{40}{60}$

$\frac{35}{60}$

$\frac{36}{60}$

Josh

20. The table below gives the weights, in ounces, of three packages. Which package weighs the most?

LCM: 42

A	B	C
$1\frac{5}{6}$	$1\frac{13}{21}$	$1\frac{2}{3}$

$1\frac{35}{42}$

$1\frac{26}{42}$

$1\frac{28}{42}$

Package A

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

ADDING & SUBTRACTING

fractions

(with Like Denominators)

Follow the steps below to add and subtract fractions with like denominators.

- 1 Write any mixed numbers as improper fractions.
- 2 Add/Subtract the numerators and keep the common denominator.
- 3 Simplify, if necessary.

Find each sum or difference. Give all answers in simplest form.

$$1. \frac{3}{20} + \frac{7}{20} = \frac{10}{20}$$

$$= \frac{1}{2}$$

$$2. \frac{13}{16} - \frac{3}{16} = \frac{10}{16}$$

$$= \frac{5}{8}$$

$$3. 3\frac{1}{10} - \frac{7}{10} = \frac{31}{10} - \frac{7}{10}$$

$$= \frac{24}{10} = \frac{12}{5}$$

$$= \frac{15}{8} + \frac{27}{8}$$

$$= \frac{42}{8} = \frac{21}{4} = 5\frac{1}{4}$$

$$4. 2\frac{1}{2} + 1\frac{7}{12} = \frac{61}{12} + \frac{19}{12}$$

$$= \frac{80}{12}$$

$$= \frac{20}{3} = 6\frac{2}{3}$$

$$5. 6\frac{1}{4} - 2\frac{3}{4} = \frac{25}{4} - \frac{11}{4}$$

$$= \frac{14}{4}$$

$$= \frac{7}{2} = 3\frac{1}{2}$$

7. A cat weighs $12\frac{5}{9}$ pounds and another cat weighs $16\frac{7}{9}$ pounds.

Find their combined weight.

$$12\frac{5}{9} + 16\frac{7}{9} = \frac{113}{9} + \frac{151}{9} = \frac{264}{9}$$

$$= \frac{88}{3} = 29\frac{1}{3} \text{ lbs}$$

8. It rained $2\frac{7}{15}$ inches in April and $3\frac{1}{15}$ inches in May. How many more inches did it rain in May than April?

$$3\frac{1}{15} - 2\frac{7}{15} = \frac{46}{15} - \frac{37}{15} = \frac{9}{15}$$

$$= \frac{3}{5} \text{ in}$$

ADDING & SUBTRACTING FRACTIONS *(with like denominators!)*

Directions: Find each sum or difference. Write all answers as mixed numbers in simplest form. Use your solutions to navigate through the maze. **SHOW ALL WORK!**

Start!

$\frac{9}{20} - \frac{7}{20} = \frac{2}{20} = \frac{1}{10}$

$\frac{2}{15} + \frac{14}{15} = \frac{16}{15} = 1\frac{1}{15}$

$\frac{11}{12} + 1\frac{5}{12} = \frac{11}{12} + \frac{17}{12} = \frac{28}{12} = \frac{7}{3}$

$\frac{5}{14} + \frac{11}{14} = \frac{16}{14} = \frac{8}{7}$

$3\frac{3}{8} - \frac{5}{8} = \frac{27}{8} - \frac{5}{8} = \frac{22}{8} = \frac{11}{4}$

$2\frac{7}{8} - 2\frac{4}{15} = \frac{43}{15} - \frac{34}{15} = \frac{9}{15} = \frac{3}{5}$

$\frac{21}{4} + \frac{9}{4} = \frac{30}{4} = \frac{15}{2}$

$3\frac{7}{16} + 1\frac{3}{16} = \frac{55}{16} + \frac{19}{16} = \frac{74}{16} = \frac{37}{8}$

$2\frac{7}{12} - \frac{11}{12} = \frac{23}{12} - \frac{11}{12} = \frac{12}{12} = 1$

$\frac{9}{40} - \frac{1}{40} = \frac{8}{40} = \frac{1}{5}$

$\frac{41}{6} - \frac{1}{6} = \frac{40}{6} = \frac{20}{3}$

$\frac{41}{48} + \frac{13}{48} = \frac{54}{48} = \frac{9}{8}$

End! 😊

$\frac{1}{24} + \frac{35}{24} = \frac{36}{24} = \frac{3}{2}$

$3\frac{17}{18} - 1\frac{11}{18} = \frac{71}{18} - \frac{29}{18} = \frac{42}{18} = \frac{7}{3}$

$\frac{83}{6} - \frac{49}{6} = \frac{34}{6} = \frac{17}{3}$

$\frac{9}{20} + 1\frac{19}{20} = \frac{29}{20} + \frac{19}{20} = \frac{48}{20} = \frac{12}{5}$

PREVIEW

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

ADDING & SUBTRACTING

fractions

(with **UNLIKE** Denominators)

- ① Write all mixed numbers as improper fractions.
- ② Find the least common multiple (LCM) of the denominators.
- ③ Rewrite the fractions using the LCM as the common denominator. Adjust each numerator to reflect the change in denominator.
- ④ Add/Subtract the numerators and keep the common denominator.
- ⑤ Simplify, if necessary.

Find each sum or difference. Give answers in simplest form.

1. $\frac{13}{12} + \frac{3}{4}$ (LCM: 12)

$$\frac{13}{12} + \frac{9}{12} = \frac{22}{12} = \frac{11}{6} = 1\frac{5}{6}$$

2. $\frac{18}{8} - \frac{5}{8}$ (LCM: 8)

$$\frac{18}{8} - \frac{5}{8} = \frac{13}{8} = 1\frac{5}{8}$$

3. $\frac{13}{12} + \frac{5}{4}$

$$\frac{13}{12} + \frac{15}{12} = \frac{28}{12} = \frac{7}{3} = 2\frac{1}{3}$$

$$= 2\frac{1}{3}$$

4. $\frac{7}{4} - \frac{3}{7}$ (LCM: 28)

$$\frac{49}{28} - \frac{12}{28} = \frac{37}{28} = 1\frac{9}{28}$$

5. $2 - \frac{1}{5}$ (LCM: 5)

$$\frac{10}{5} - \frac{1}{5} = \frac{9}{5} = 1\frac{4}{5}$$

6. $\frac{41}{6} + \frac{3}{2}$ (LCM: 6)

$$\frac{41}{6} + \frac{9}{6} = \frac{50}{6} = \frac{25}{3} = 8\frac{1}{3}$$

7. $1\frac{5}{9} + 4\frac{5}{6}$ (LCM: 18)

$$\frac{14}{9} + \frac{29}{6} = \frac{28}{18} + \frac{87}{18} = \frac{115}{18} = 6\frac{7}{18}$$

8. $4\frac{11}{12} - \frac{5}{9}$ (LCM: 36)

$$\frac{59}{12} - \frac{5}{9} = \frac{177}{36} - \frac{20}{36} = \frac{157}{36} = 4\frac{13}{36}$$

$$9. \frac{1}{6} + 2\frac{1}{2} \quad (\text{LCM: } 6)$$

$$\begin{aligned} \frac{1}{6} + \frac{5}{2} &= \frac{1}{6} + \frac{15}{6} \\ &= \frac{16}{6} \\ &= \frac{8}{3} = \boxed{2\frac{2}{3}} \end{aligned}$$

$$10. 3\frac{5}{8} + 5\frac{11}{12} \quad (\text{LCM: } 24)$$

$$\begin{aligned} \frac{29}{8} + \frac{71}{12} &= \frac{87}{24} + \frac{142}{24} \\ &= \frac{229}{24} \end{aligned}$$

$$11. 1\frac{3}{4} + \left(\frac{3}{2} + \frac{1}{3}\right)$$

$$\frac{7}{4} + \left(\frac{9}{6} + \frac{2}{6}\right)$$

$$\frac{7}{4} + \frac{11}{6}$$

$$\frac{21}{12} + \frac{22}{12} = \frac{43}{12} = \boxed{3\frac{7}{12}}$$

$$12. \frac{4}{5} - \frac{1}{10} + \frac{3}{8}$$

$$\frac{8}{10} - \frac{1}{10} + \frac{3}{8}$$

$$\frac{7}{10} + \frac{35}{80}$$

$$\frac{56}{80} + \frac{35}{80} = \frac{91}{80} = \boxed{1\frac{11}{80}}$$

APPLICATIONS

13. Jordan made apple-cranberry juice by combining $1\frac{7}{6}$ liters of apple juice with $1\frac{7}{8}$ liters of cranberry juice. How many liters of apple-cranberry juice did he have?

$$\begin{aligned} 1\frac{7}{6} + 1\frac{7}{8} &= \frac{15}{6} + \frac{15}{8} = \frac{45}{8} + \frac{45}{24} \\ &= \frac{97}{24} = \boxed{4\frac{1}{24} \text{ liters}} \end{aligned}$$

14. Tisha is making a cake that calls for $2\frac{3}{4}$ cups of sugar. If she has $1\frac{5}{6}$ cups, how many more cups of sugar does she need?

$$\begin{aligned} 2\frac{3}{4} - 1\frac{5}{6} &= \frac{11}{4} - \frac{11}{6} = \frac{33}{12} - \frac{22}{12} \\ &= \frac{11}{12} \text{ cups} \end{aligned}$$

15. Matt took a 2-day road trip. He used $12\frac{5}{12}$ gallons of gas on the first day and $9\frac{1}{18}$ gallons of gas on the second day. How many total gallons of gas did he use?

$$\begin{aligned} 12\frac{5}{12} + 9\frac{1}{18} &= \frac{149}{12} + \frac{163}{18} = \frac{447}{36} + \frac{326}{36} \\ &= \frac{773}{36} = \boxed{21\frac{17}{36} \text{ gallons}} \end{aligned}$$

16. River Run Middle School consists of grades 6, 7, and 8. If $\frac{3}{8}$ of the students are in seventh grade and $\frac{1}{3}$ of the students are in eighth grade, what fraction of the students are in sixth grade?

$$\begin{aligned} 1 - \left(\frac{3}{8} + \frac{1}{3}\right) &= 1 - \left(\frac{9}{24} + \frac{8}{24}\right) = 1 - \frac{17}{24} \\ &= \frac{24}{24} - \frac{17}{24} = \boxed{\frac{7}{24} \text{ students}} \end{aligned}$$

WHERE DID CAPTAIN HOOK *buy his hook?*

Directions: Find each sum or difference. Show all work on a separate sheet of paper. After completing each set, find matching answers. One will have a letter and the other a number. Write the letter in the matching numbered box at the bottom of the page.

SET 1 (Write each answer as a MIXED NUMBER in simplest form.)			
T. $\frac{3}{4} + \frac{1}{2}$	<u>$1\frac{1}{4}$</u>	6. $1\frac{1}{6} + \frac{1}{8}$	<u>$1\frac{1}{24}$</u>
D. $2\frac{5}{12} - 1\frac{1}{8}$	<u>$1\frac{7}{24}$</u>	15. $1\frac{3}{4} - \frac{5}{6}$	<u>$1\frac{1}{12}$</u>
E. $1\frac{1}{4} - \frac{1}{3}$	<u>$\frac{11}{12}$</u>	4. $1\frac{1}{2} + \frac{7}{8}$	<u>$2\frac{3}{8}$</u>
O. $\frac{5}{6} + 1\frac{13}{24}$	<u>$2\frac{3}{8}$</u>	9. $1\frac{1}{16} - \frac{1}{2}$	<u>$1\frac{1}{4}$</u>
N. $\frac{1}{3} + \frac{11}{48}$	<u>$\frac{9}{16}$</u>	12. $\frac{3}{5} - \frac{7}{20}$	<u>$1\frac{1}{4}$</u>
SET 2 (Write each answer as a MIXED NUMBER in simplest form.)			
A. $1\frac{2}{3} - \frac{4}{9}$	<u>$1\frac{2}{9}$</u>	3. $1\frac{1}{10} + \frac{1}{5}$	<u>$2\frac{11}{15}$</u>
S. $\frac{23}{36} + \frac{5}{12}$	<u>$1\frac{1}{18}$</u>	1. $\frac{1}{4} + \frac{35}{36}$	<u>$1\frac{2}{9}$</u>
E. $3\frac{1}{5} - \frac{8}{15}$	<u>$2\frac{1}{3}$</u>	1. $1\frac{5}{9} - \frac{1}{2}$	<u>$1\frac{1}{18}$</u>
R. $\frac{3}{4} + 1\frac{1}{12}$	<u>$1\frac{5}{6}$</u>	1. $1\frac{1}{2} + \frac{1}{3}$	<u>$1\frac{5}{6}$</u>
C. $1\frac{1}{3} + 1\frac{2}{5}$	<u>$2\frac{11}{15}$</u>	2. $3\frac{1}{6} - \frac{1}{2}$	<u>$2\frac{2}{3}$</u>
SET 3 (Write each answer as a MIXED NUMBER in simplest form.)			
N. $\frac{3}{4} + \frac{8}{10}$	<u>$1\frac{13}{10}$</u>	1. $5\frac{1}{6} - 4\frac{4}{9}$	<u>$\frac{13}{18}$</u>
S. $1\frac{1}{4} - \frac{4}{5}$	<u>$\frac{13}{18}$</u>	13. $2\frac{1}{3} - \frac{5}{6}$	<u>$1\frac{1}{2}$</u>
D. $\frac{3}{5} + \frac{1}{10}$	<u>$1\frac{4}{15}$</u>	7. $\frac{1}{6} + \frac{1}{2}$	<u>$\frac{2}{3}$</u>
E. $\frac{7}{12} - \frac{1}{4}$	<u>$\frac{2}{3}$</u>	5. $1\frac{1}{15} + \frac{7}{12}$	<u>$1\frac{13}{20}$</u>
O. $\frac{1}{2} + \frac{1}{4}$	<u>$1\frac{1}{2}$</u>	10. $1\frac{1}{2} - \frac{7}{30}$	<u>$1\frac{4}{15}$</u>

ANSWER: *he bought it at a*

1. S	2. E	3. C	4. O	5. N	6. D	7. H	8. A	9. N	10. D	11. S	12. T	13. O	14. R	15. E	!
------	------	------	------	------	------	------	------	------	-------	-------	-------	-------	-------	-------	---

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 3: Adding & Subtracting Fractions

**** This is a 2-page document! ******Directions:** Find each sum or difference. Write all answers in simplest form.

1. $\frac{17}{18} + \frac{7}{18} = \frac{24}{18}$

$= \frac{4}{3} = \boxed{1\frac{1}{3}}$

2. $\frac{23}{24} - \frac{7}{24} = \frac{16}{24}$

$= \frac{2}{3} = \boxed{\frac{2}{3}}$

3. $1\frac{5}{9} + 2\frac{7}{9} = \frac{14}{9} + \frac{25}{9}$

$= \frac{39}{9}$

$= \frac{13}{3} = \boxed{4\frac{1}{3}}$

4. $5\frac{1}{2} - 2\frac{5}{8} = \frac{21}{8} - \frac{21}{8}$

$= \frac{1}{8}$

$= \frac{5}{2} = \boxed{2\frac{1}{2}}$

5. $\frac{7}{10} + \frac{1}{20}$ (LCM: 20)

$\frac{14}{20} + \frac{1}{20} = \frac{15}{20}$

$= \frac{3}{4} = \boxed{\frac{3}{4}}$

6. $\frac{3}{4} - \frac{1}{4}$ (LCM: 20)

$\frac{15}{20} - \frac{5}{20} = \frac{10}{20}$

$= \frac{1}{2} = \boxed{\frac{1}{2}}$

7. $4\frac{1}{12} + 1\frac{3}{4}$ (LCM: 12)

$\frac{49}{12} + \frac{15}{12} = \frac{64}{12}$

$= \frac{16}{3} = \boxed{5\frac{2}{3}}$

8. $5\frac{1}{2} - 1\frac{5}{6}$ (LCM: 6)

$\frac{11}{2} - \frac{11}{6} = \frac{33}{6} - \frac{11}{6}$

$= \frac{22}{6}$

$= \frac{11}{3} = \boxed{3\frac{2}{3}}$

9. $\frac{4}{12} - \frac{13}{6}$ (LCM: 12)

$\frac{4}{12} - \frac{26}{12} = \frac{-22}{12}$

$= -\frac{11}{6} = \boxed{-1\frac{5}{6}}$

10. $3\frac{5}{6} + \frac{1}{10} - \frac{3}{5}$

$\frac{23}{6} + \frac{1}{10} - \frac{3}{5}$

$\frac{115}{30} + \frac{3}{30} - \frac{18}{30} = \frac{100}{30}$

$= \frac{10}{3} = \boxed{3\frac{2}{3}}$

11. $11\frac{5}{6} - 1\frac{3}{8}$ (LCM: 24)

$$\frac{71}{6} - \frac{11}{8} = \frac{284}{24} - \frac{33}{24}$$

$$= \frac{251}{24} = \boxed{10\frac{11}{24}}$$

12. $1\frac{11}{15} + 6\frac{1}{6}$ (LCM: 30)

$$\frac{26}{15} + \frac{37}{6} = \frac{52}{30} + \frac{185}{30}$$

$$= \frac{237}{30}$$

$$= \frac{79}{10} = \boxed{7\frac{9}{10}}$$

13. Kisha ran $8\frac{7}{15}$ miles then walked $1\frac{7}{10}$ miles.
Find the total distance she traveled.

$$8\frac{7}{15} + 1\frac{7}{10}$$

$$\frac{127}{15} + \frac{17}{10} = \frac{254}{30} + \frac{51}{30}$$

$$= \frac{305}{30}$$

$$= \frac{61}{6} = \boxed{10\frac{1}{6}}$$

14. Tom has a rope that is $5\frac{3}{8}$ feet long. If he cuts $1\frac{2}{3}$ feet off, find the length of the rope remaining.

$$5\frac{3}{8} - 1\frac{2}{3}$$

$$4\frac{9}{8} - \frac{5}{3} = \frac{29}{4} - \frac{5}{3}$$

$$= \frac{87}{12} - \frac{20}{12} = \frac{67}{12} = \boxed{5\frac{11}{12}}$$

15. The clearance of a tunnel is $15\frac{1}{2}$ feet tall.
If a truck is $13\frac{5}{12}$ feet tall, find the clearance between the top of the truck and the top of the tunnel.

$$15\frac{1}{2} - 13\frac{5}{12}$$

$$\frac{31}{2} - \frac{161}{12} = \frac{186}{12} - \frac{161}{12}$$

$$= \frac{25}{12} = \boxed{2\frac{1}{12}}$$

- If $1\frac{1}{4}$ pounds of nuts is mixed with $\frac{2}{5}$ pounds of dried fruit to create trail mix, find the total weight of the mixture.

$$1\frac{1}{4} + \frac{2}{5}$$

$$\frac{5}{4} + \frac{2}{5} = \frac{25}{20} + \frac{8}{20}$$

$$= \frac{33}{20} = \boxed{1\frac{13}{20}}$$

16. A bag contains $3\frac{1}{9}$ pounds of sand. If $3\frac{1}{9}$ pounds are poured out, find the weight of the sand remaining in the bag.

$$3\frac{1}{9} - 3\frac{1}{9}$$

$$\frac{28}{9} = \frac{369}{36} - \frac{112}{36}$$

$$= \frac{257}{36} = \boxed{7\frac{5}{36}}$$

18. Mara made a cake. If she gave $\frac{4}{9}$ of the cake to her daughter and $\frac{1}{6}$ of the cake to her son, what fraction of the cake does she have left?

$$1 - (\frac{4}{9} + \frac{1}{6})$$

$$1 - (\frac{8}{18} + \frac{3}{18})$$

$$\frac{18}{18} - \frac{11}{18} = \boxed{\frac{7}{18}}$$

Name: _____

Math 6

Date: _____ Per: _____

Unit 2: Integer Operations

Quiz 3-1: Introduction to Fractions; Adding & Subtracting Fractions

1. Write as an improper fraction: $3\frac{4}{7}$

2. Write as a mixed number: $\frac{41}{8}$

$$\begin{array}{r} 5 \\ 8 \overline{)41} \\ \underline{-40} \\ 1 \end{array}$$

Simplify. Write your answer as a mixed number when possible.

3. $\frac{21}{28}$

4. $\frac{30}{72}$

5. $\frac{60}{32} = \frac{15}{8}$

$$\begin{array}{r} 1 \\ 8 \overline{)15} \\ \underline{-8} \\ 7 \end{array}$$

6. $\frac{84}{18}$

$$\begin{array}{r} 4 \\ 9 \overline{)36} \\ \underline{-36} \\ 0 \end{array}$$

Determine whether the fractions are equivalent. (Answer yes or no)

7. $\frac{27}{48}, \frac{18}{28}$

8. $\frac{32}{24}, \frac{4}{9}$

$$\frac{9}{16}, \frac{9}{14}$$

$$\frac{4}{3}, \frac{4}{3}$$

Compare the fractions using a <, >, or = symbol.

9. $\frac{8}{15} < \frac{35}{60}$

10. $\frac{12}{21} = \frac{8}{14}$

11. $\frac{19}{4} > \frac{25}{6}$

$$\frac{24}{42}, \frac{24}{42}$$

$$\frac{57}{12}, \frac{50}{12}$$

The table below gives the lengths of three songs, in minute. Use the letter names, order the lengths of the songs from least to greatest.

Song	A	B	C
Length (minutes)	$3\frac{11}{16}$	$3\frac{7}{8}$	$3\frac{3}{5}$

$$\frac{59}{16} = \frac{295}{80}, \quad \frac{31}{8} = \frac{310}{80}, \quad \frac{18}{5} = \frac{288}{80}$$

Find each sum or difference. Write all answers in simplest form and as mixed numbers when possible.

13. $\frac{5}{28} + \frac{7}{28}$

$$\frac{12}{28} = \frac{3}{7}$$

14. $\frac{4}{5} - \frac{2}{15}$

$$\frac{12}{15} - \frac{2}{15} = \frac{10}{15} = \frac{2}{3}$$

15. $2\frac{5}{6} - 1\frac{1}{8}$

$$\frac{17}{6} - \frac{9}{8}$$

$$\frac{68}{24} - \frac{27}{24} = \frac{41}{24}$$

16. $3\frac{7}{10} + \frac{3}{4}$

$$\frac{37}{10} + \frac{3}{4}$$

$$\frac{74}{20} + \frac{15}{20} = \frac{89}{20}$$

17. $1\frac{4}{9} - 1\frac{2}{15}$

$$\frac{13}{9} - \frac{17}{15}$$

$$\frac{65}{45} - \frac{51}{45} = \frac{14}{45}$$

18. $2\frac{1}{6} - \frac{13}{12}$

$$\frac{5}{6} - \frac{13}{12}$$

$$\frac{10}{12} - \frac{13}{12} = -\frac{3}{12} = -\frac{1}{4}$$

13. $\frac{3}{7}$

14. $\frac{2}{3}$

15. $4\frac{41}{24}$

16. $4\frac{89}{20}$

17. $2\frac{17}{42}$

18. $\frac{13}{16}$ in

19. $12\frac{13}{36}$ lb

19. Doug has a piece of tile that is $5\frac{1}{16}$ inches long. If he needs the piece to be $4\frac{3}{4}$ inches long for a certain area, how much should he cut off?

$$5\frac{1}{16} - 4\frac{3}{4} = \frac{89}{16} - \frac{76}{16}$$

$$= \frac{13}{16} \text{ in}$$

20. Max's puppy Max was $8\frac{4}{9}$ pounds at his first vet appointment. If he gained $3\frac{11}{12}$ pounds at his second appointment, find Max's weight at his second vet appointment.

$$8\frac{4}{9} + 3\frac{11}{12} = \frac{76}{9} + \frac{47}{12}$$

$$= \frac{304}{36} + \frac{141}{36} = \frac{445}{36} = 12\frac{13}{36} \text{ lb}$$

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

MULTIPLYING fractions

Follow the steps below to multiply fractions.

- ① Write all mixed numbers as improper fractions.
- ② Simplify up and down and along the diagonal, if possible.
- ③ Multiply the numerators to get the new numerator.
Multiply the denominators to get the new denominator.
- ④ Simplify, if necessary.

Find each product. Give all answers in simplest form.

$$1. \frac{13}{8} \times \frac{5}{2}$$

$$\frac{1}{8} \times \frac{5}{2} = \frac{5}{16}$$

$$2. \frac{1}{2} \times \frac{7}{4}$$

$$\frac{1}{2} \times \frac{7}{4} = \frac{7}{8}$$

$$3. 1\frac{1}{2} \times 1\frac{3}{4}$$

$$1\frac{1}{2} \times 1\frac{3}{4} = 2\frac{21}{8}$$

$$4. 1\frac{1}{3} \times 2\frac{5}{8}$$

$$1\frac{4}{3} \times 2\frac{5}{8}$$

$$\frac{1}{1} \times \frac{7}{2} = \frac{7}{2}$$

$$= 3\frac{1}{2}$$

$$5. 2\frac{3}{8} \cdot 1\frac{5}{7}$$

$$2\frac{19}{8} \cdot 1\frac{12}{7}$$

$$\frac{19}{2} \cdot \frac{3}{7} = \frac{57}{14}$$

$$= 4\frac{1}{14}$$

$$6. 1\frac{1}{4} \cdot 3\frac{7}{10}$$

$$1\frac{5}{4} \cdot 3\frac{7}{10}$$

$$\frac{1}{4} \cdot \frac{37}{2} = \frac{37}{8}$$

$$= 4\frac{5}{8}$$

$$7. 2\frac{2}{9} \cdot 1\frac{5}{8}$$

$$5\frac{20}{9} \cdot \frac{13}{8}$$

$$\frac{5}{9} \cdot \frac{13}{2} = \frac{65}{18}$$

$$= 3\frac{11}{18}$$

$$8. 2\frac{1}{6} \cdot 5\frac{7}{9}$$

$$3\frac{13}{6} \cdot 5\frac{26}{9}$$

$$\frac{13}{3} \cdot \frac{26}{9} = \frac{338}{27}$$

$$= 12\frac{14}{27}$$

$$9. 5\frac{1}{10} \cdot 1\frac{7}{8}$$

$$5\frac{1}{10} \cdot 1\frac{3}{8}$$

$$\frac{51}{10} \cdot \frac{3}{8} = \frac{153}{80}$$

$$= 1\frac{9}{16}$$

$$10. 4\frac{9}{10} \cdot 5\frac{1}{2}$$

$$4\frac{9}{10} \cdot 5\frac{1}{2}$$

$$\frac{49}{10} \cdot \frac{11}{2} = \frac{539}{20}$$

$$= 26\frac{9}{20}$$

$$11. 2\frac{5}{6} + 3\frac{3}{4} \cdot 1\frac{1}{5}$$

$$\frac{17}{6} + 3\frac{3}{4} \cdot \frac{6}{5}$$

$$\frac{17}{6} + \frac{9}{2} = \frac{44}{6} = \frac{22}{3} = 7\frac{1}{3}$$

$$12. \frac{1}{2} \cdot \left(\frac{1}{2} - \frac{3}{5}\right)$$

$$\frac{1}{2} \cdot \left(\frac{5}{10} - \frac{6}{10}\right)$$

$$\frac{1}{2} \cdot \left(-\frac{1}{10}\right) = -\frac{1}{20}$$

APPLICATIONS

13. A bag has 2 pounds of flour. If she uses $\frac{2}{3}$ of the bag for a recipe, how many pounds of flour are left in the bag?

$$2\frac{13}{16} - 1\frac{7}{8}$$

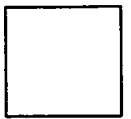
$$\frac{45}{16} - \frac{15}{8}$$

$$\frac{45}{16} - \frac{30}{16} = \frac{15}{16}$$

14. The furthest Jack has run was $3\frac{7}{15}$ miles. If he runs $1\frac{1}{4}$ times further than his longest run, how far did he run?

$$3\frac{7}{15} \cdot 1\frac{1}{4}$$

$$3\frac{52}{15} \cdot \frac{5}{4} = \frac{13}{3} = 4\frac{1}{3} \text{ miles}$$



Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 4: Multiplying Fractions

Directions: Find each product. Write each answer in simplest form.

1. $\frac{18}{7} \cdot \frac{5}{2}$

$$\frac{18}{7} \cdot \frac{5}{2} = \boxed{\frac{5}{14}}$$

2. $2\frac{1}{2} \cdot \frac{7}{10}$

$$\frac{18}{2} \cdot \frac{7}{10} = \frac{7}{4} = \boxed{1\frac{3}{4}}$$

3. $\frac{2}{3} \cdot 5\frac{3}{4}$

$$\frac{2}{3} \cdot \frac{23}{4} = \boxed{\frac{23}{6}}$$

4. $1\frac{4}{9} \cdot \frac{3}{10}$

$$\frac{13}{9} \cdot \frac{3}{10} = \boxed{\frac{13}{30}}$$

5. $4\frac{7}{9} \cdot 2\frac{2}{5}$

$$\frac{43}{9} \cdot \frac{12}{5} = 17\frac{4}{15}$$

6. $(2\frac{5}{12}) \cdot 1\frac{1}{2}$

$$\frac{29}{12} \cdot \frac{3}{2} = \frac{29}{8} = 3\frac{5}{8}$$

7. If you have $4\frac{1}{6}$ yards of fabric and cut $\frac{2}{3}$ of it off to make a quilt, how many yards will you have remaining? One cup of sugar weighs $6\frac{3}{10}$ ounces. Find the total weight of $4\frac{2}{3}$ cups of sugar.

$$4\frac{1}{6} \cdot \frac{2}{3}$$

$$\frac{28}{36} \cdot \frac{2}{3} = \frac{5}{3}$$

$$= \frac{5}{3} = 1\frac{2}{3}$$

$$4\frac{1}{6} - 1\frac{2}{3}$$

$$2\frac{5}{6} - \frac{5}{6} = 2$$

$$2 = \frac{5}{2} = \boxed{2\frac{1}{2} \text{ yd}}$$

$$\frac{3}{10} \cdot 4\frac{2}{3}$$

$$\frac{21}{5} \cdot \frac{14}{3} = \frac{147}{5}$$

$$= \frac{147}{5}$$

$$= \boxed{29\frac{2}{5} \text{ ounces}}$$

8. A baby weighed $6\frac{1}{9}$ pounds at birth and his current weight is $\frac{2}{5}$ his birth weight.

$$\cdot 2\frac{2}{5}$$

$$\frac{5}{3} \cdot \frac{12}{5} = \frac{44}{3}$$

$$= \boxed{14\frac{2}{3} \text{ pounds}}$$

10. There was $4\frac{1}{8}$ gallons of water in a jug. If a soccer team drank $\frac{4}{9}$ of the water, how much water remains in the jug?

$$4\frac{1}{8} \cdot \frac{4}{9}$$

$$\frac{33}{8} \cdot \frac{4}{9} = \frac{11}{6}$$

$$= \frac{11}{6} = 1\frac{5}{6}$$

$$4\frac{1}{8} - 1\frac{5}{6}$$

$$\frac{33}{8} - \frac{11}{6}$$

$$\frac{99}{24} - \frac{44}{24}$$

$$= \frac{55}{24} = \boxed{2\frac{7}{24} \text{ gallons}}$$

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

DIVIDING fractions

Follow the steps below to divide fractions

- ① Write all mixed numbers as improper fractions.
- ② Change the division symbol to multiplication and FLIP the second fraction to its reciprocal (KISS!)
- ③ Multiply the numerators to get the new numerator.
Multiply the denominators to get the new denominator.
- ④ Simplify (if needed).

Find each quotient. Give all answers in simplest form.

$$1. \frac{1}{4} \div \frac{5}{6}$$

$$\frac{1}{4} \cdot \frac{6}{5} = \frac{3}{10}$$

$$2. \frac{5}{6} \div \frac{2}{3}$$

$$\frac{5}{6} \cdot \frac{3}{2} = \frac{15}{12} = \frac{5}{4}$$

$$3. \frac{2}{3} \div \frac{5}{7}$$

$$\frac{2}{3} \cdot \frac{7}{5} = \frac{14}{15}$$

$$4. 1\frac{1}{4} \div 1\frac{1}{8}$$

$$\frac{5}{4} \div \frac{9}{8} = \frac{5}{4} \cdot \frac{8}{9} = \frac{10}{9} = 1\frac{1}{9}$$

$$5. 3\frac{3}{4} \div 1\frac{1}{5}$$

$$\frac{15}{4} \div \frac{6}{5} = \frac{15}{4} \cdot \frac{5}{6} = \frac{25}{8} = 3\frac{1}{8}$$

$$6. 1\frac{2}{9} \div \frac{5}{6}$$

$$\frac{11}{9} \div \frac{5}{6} = \frac{11}{9} \cdot \frac{6}{5} = \frac{22}{15} = 1\frac{7}{15}$$

$$7. 3 \div 2\frac{2}{5}$$

$$3 \div \frac{12}{5} = \frac{3}{1} \cdot \frac{5}{12} = \frac{5}{4} = 1\frac{1}{4}$$

$$8. 5\frac{1}{3} \div 1\frac{1}{9}$$

$$\frac{16}{3} \div \frac{10}{9} = \frac{16}{3} \cdot \frac{9}{10} = \frac{24}{5} = 4\frac{4}{5}$$

$$9. 2\frac{5}{8} \div 6\frac{3}{4}$$

$$\frac{21}{8} \div \frac{27}{4} = \frac{21}{8} \cdot \frac{4}{27}$$

$$= \frac{7}{18}$$

$$10. 9\frac{1}{3} \div 4$$

$$\frac{28}{3} \div 4 = \frac{28}{3} \cdot \frac{1}{4}$$

$$= \frac{7}{3}$$

$$11. 3\frac{3}{7} \div \frac{10}{21}$$

$$\frac{24}{7} \div \frac{10}{21} = \frac{24}{7} \cdot \frac{21}{10}$$

$$= \frac{36}{5}$$

$$12. \frac{3}{4} \div \frac{5}{8}$$

$$\frac{3}{4} \cdot \frac{8}{5} = \frac{6}{5}$$

$$= 1\frac{1}{5}$$

APPLICATIONS

13. A container of juice contains 10 $\frac{7}{8}$ cups. The serving size listed on the package is $\frac{3}{4}$ cup. How many servings are there?

$$10\frac{7}{8} \div \frac{3}{4} = \frac{87}{8} \div \frac{3}{4}$$

$$= \frac{87}{8} \cdot \frac{4}{3} = \frac{29}{2} = 14\frac{1}{2} \text{ servings}$$

14. How many bracelets can be made using 10 $\frac{5}{6}$ feet of string if each bracelet requires $\frac{5}{8}$ feet of string?

$$10\frac{5}{6} \div \frac{5}{8} = \frac{65}{6} \div \frac{5}{8}$$

$$= \frac{65}{6} \cdot \frac{8}{5} = \frac{52}{3} = 17\frac{1}{3}$$

17 bracelets

15. Mr. Kesler is filling test tubes with a solution to use with his science students. If he has 220 milliliters of solution and each test tube can hold a maximum of 9 $\frac{1}{3}$ milliliters, how many test tubes will he need?

$$220 \div 9\frac{1}{3} = 220 \div \frac{28}{3}$$

$$= 220 \cdot \frac{3}{28} = \frac{165}{7} = 23\frac{4}{7}$$

24 test tubes

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 5: Dividing Fractions

Directions: Find each product. Write each answer in simplest form.

1. $\frac{7}{9} \div \frac{5}{6}$

$$\frac{7}{9} \cdot \frac{6^2}{5} = \boxed{\frac{14}{15}}$$

2. $1\frac{2}{3} \div \frac{8}{9}$

$$\frac{5}{3} \div \frac{8}{9} = \frac{5}{3} \cdot \frac{9^3}{8}$$

$$= \frac{15}{8} = \boxed{1\frac{7}{8}}$$

3. $\frac{5}{8} \div 2\frac{11}{12}$

$$\frac{5}{8} \div \frac{35}{12}$$

4. $8\frac{2}{5} \div 6$

$$\frac{42}{5} \div 6 = \frac{42}{5} \cdot \frac{1}{6}$$

$$= \frac{7}{5} = \boxed{1\frac{2}{5}}$$

5. $4\frac{2}{3} \div 1\frac{7}{9}$

$$\frac{14}{3} \div \frac{16}{9}$$

$$= \frac{14}{3} \cdot \frac{9}{16}$$

$$= \frac{21}{8} = \boxed{2\frac{5}{8}}$$

6. $1\frac{5}{6} \div (\frac{5}{6} - \frac{2}{15})$

$$\frac{11}{6} \div (\frac{25}{30} - \frac{8}{30})$$

$$\frac{11}{6} \div \frac{17}{30} = \frac{11}{6} \cdot \frac{30}{17}$$

$$= \frac{55}{17} = \boxed{3\frac{4}{17}}$$

7. The bake shop had $3\frac{3}{8}$ pans of brownies left at the end of the day. If they evenly distribute the brownies to each of their 6 employees, what fraction of a pan will each employee receive?

$$3\frac{3}{8} \div 6 = \frac{27}{8} \div 6$$

of a pan

How many strips of ribbon can be cut from a roll of ribbon that is $4\frac{4}{9}$ meters long if each piece is $\frac{5}{12}$ meters long?

$$4\frac{4}{9} \div \frac{5}{12} = \frac{40}{9} \cdot \frac{12}{5}$$

$$= \frac{32}{3} = 10\frac{2}{3}$$

10 strips

8. A block is $\frac{15}{16}$ inches tall. How many blocks are needed to build a tower that is at least 18 inches tall?

$$\frac{15}{16} \div \frac{15}{16} = \frac{18}{1} \cdot \frac{16}{15}$$

$$= \frac{96}{5} = 19\frac{1}{5}$$

20 blocks

10. Scott has $18\frac{3}{4}$ gallons of gas in his tank. If he uses $\frac{3}{50}$ gallons of gas per mile he drives, how many miles can he drive before his tank is empty?

$$18\frac{3}{4} \div \frac{3}{50} = \frac{75}{4} \cdot \frac{50}{3}$$

$$= \frac{625}{2} = \boxed{312\frac{1}{2} \text{ mi}}$$

FRACTION OPERATIONS maze!

Directions: Evaluate each expression. Write all answers as mixed numbers in simplest form. Use your solutions to navigate through the maze. **Staple all work to this paper!**

PREVIEW

Start!

End! 😊

Maze paths are indicated by lines connecting boxes. The path starts at the 'Start!' box and ends at the 'End!' box.

Expressions to solve (clockwise from top-left):

- $2\frac{8}{9} - \frac{5}{6}$
- $1\frac{1}{6} \cdot 5\frac{5}{9}$
- $1\frac{5}{6} \div 1\frac{1}{3}$
- $2\frac{5}{36}$
- $3\frac{7}{9} + 1\frac{5}{12}$
- $1\frac{9}{10} \div \frac{1}{8}$
- $2\frac{1}{3} - 1\frac{4}{9}$
- $2\frac{1}{12} - \frac{1}{3}$
- $3\frac{3}{4} \cdot \frac{1}{6}$
- $\frac{7}{12} - \frac{5}{36}$
- $1\frac{1}{2} \cdot \frac{2}{9}$
- $3\frac{5}{6} - \frac{1}{2}$
- $3\frac{3}{5} \div 8$
- $5\frac{1}{10} - \frac{1}{5}$
- $1\frac{3}{7} - \frac{3}{4}$
- $2\frac{1}{12} + \frac{5}{8}$
- $\frac{7}{15} \div \frac{21}{40}$

Answers (clockwise from top-left):

- $6\frac{13}{27}$
- $3\frac{1}{8}$
- $\frac{16}{21}$
- $2\frac{1}{18}$
- $15\frac{1}{5}$
- $1\frac{1}{4}$
- $\frac{1}{3}$
- $\frac{2}{9}$
- $\frac{5}{8}$
- $\frac{7}{12}$
- $\frac{2}{3}$
- $\frac{17}{40}$
- $\frac{9}{20}$
- $\frac{13}{28}$
- $2\frac{17}{24}$
- $\frac{13}{15}$
- $\frac{7}{9}$
- $8\frac{7}{15}$
- $\frac{17}{28}$
- $2\frac{1}{48}$

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 6: All Fraction Operations

Directions: Evaluate each expression. Write all answers in simplest form as mixed number.

$$1. \frac{13}{18} - \frac{5}{18} = \frac{8}{18}$$

$$= \boxed{\frac{4}{9}}$$

$$2. \frac{5}{12} + \frac{5}{6} = \frac{5}{12} + \frac{10}{12}$$

$$= \frac{15}{12}$$

$$= \frac{5}{4} = \boxed{1\frac{1}{4}}$$

$$3. 1\frac{3}{5} + \frac{11}{15} = \frac{8}{5} + \frac{11}{15}$$

$$= \frac{16}{15} + \frac{11}{15}$$

$$= \frac{27}{15}$$

$$= \frac{9}{5} = \boxed{2\frac{1}{5}}$$

$$4. 4\frac{1}{6} - 1\frac{3}{8} = \frac{25}{6} - \frac{11}{8}$$

$$= \frac{100}{24} - \frac{33}{24}$$

$$= \frac{67}{24} = \boxed{2\frac{19}{24}}$$

$$5. \frac{5}{6} + 5\frac{9}{10} = \frac{5}{6} + \frac{59}{10}$$

$$= \frac{25}{30} + \frac{177}{30}$$

$$= \frac{202}{30}$$

$$= \frac{101}{15} = \boxed{6\frac{11}{15}}$$

$$6. 1\frac{5}{7} - \frac{7}{9} = \frac{12}{7} - \frac{7}{9}$$

$$= \frac{51}{63} - \frac{28}{63}$$

$$= \frac{23}{63} = \boxed{\frac{23}{63}}$$

$$7. \frac{15}{4} \cdot \frac{93}{25} = \frac{1}{4} \cdot \frac{3}{5}$$

$$= \boxed{\frac{3}{20}}$$

$$8. 3\frac{4}{9} \cdot 1\frac{7}{8} = \frac{31}{9} \cdot \frac{15}{8}$$

$$= \frac{465}{72}$$

$$= \frac{155}{24} = \boxed{6\frac{11}{24}}$$

$$9. 2\frac{2}{5} \cdot 3\frac{1}{8} = \frac{12}{5} \cdot \frac{25}{8}$$

$$= \frac{15}{2}$$

$$= \boxed{7\frac{1}{2}}$$

$$10. \frac{15}{24} \div \frac{18}{32} = \frac{5}{8} \cdot \frac{32}{27}$$

$$= \frac{20}{27}$$

$$= \boxed{1\frac{13}{27}}$$

$$11. \frac{28}{9} \cdot \frac{1}{14} = \frac{326}{9} \cdot \frac{1}{14}$$

$$= \frac{13}{18} = \boxed{\frac{13}{18}}$$

$$12. 4\frac{2}{3} \div 4\frac{1}{12} = \frac{14}{3} \div \frac{49}{12}$$

$$= \frac{24}{3} \cdot \frac{12}{49}$$

$$= \frac{8}{7} = \boxed{1\frac{1}{7}}$$

$$13. \frac{15}{16} + \frac{3}{16}$$

$$= \frac{44}{48} + \frac{3}{16}$$

$$= \frac{1}{48} + \frac{9}{48}$$

$$= \frac{10}{48} = \boxed{\frac{5}{24}}$$

$$14. 1\frac{5}{9} \cdot \left(\frac{9}{14} + \frac{3}{4}\right)$$

$$= \frac{14}{9} \cdot \left(\frac{18}{28} + \frac{21}{28}\right)$$

$$= \frac{14}{9} \cdot \frac{39}{28}$$

$$= \frac{13}{6} = \boxed{2\frac{1}{6}}$$

$$15. \frac{1}{15} + \frac{6}{5} \div \frac{12}{7}$$

$$= \frac{1}{15} + \frac{1}{5} \cdot \frac{7}{12}$$

$$= \frac{1}{15} + \frac{7}{60}$$

$$= \frac{2}{30} + \frac{7}{30} = \boxed{\frac{23}{30}}$$

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

ADDITION

Applications

1. Elijah is a running back on a football team. In the last game, he played for $4\frac{3}{4}$ minutes in the first half and $7\frac{11}{20}$ minutes in the second half. Find his total playing time.

$$4\frac{3}{4} + 7\frac{11}{20} = \frac{19}{4} + \frac{151}{20}$$

$$= \frac{95}{20} + \frac{151}{20}$$

$$= \frac{246}{20} = 12\frac{3}{5}$$

2. The table below shows the rainfall for the first three months of the year. Find the amount of rainfall for the first three months with an amount of rainfall in inches.

Month	JAN	FEB	MAR
Rainfall in inches	$2\frac{5}{9}$	$2\frac{19}{36}$	

$$2\frac{5}{9} + 2\frac{19}{36} = \frac{11}{4} + \frac{23}{9}$$

$$= \frac{99}{36} + \frac{92}{36}$$

$$= \frac{191}{36} = 5\frac{11}{36} \text{ in}$$

SUBTRACTION

Applications

3. A piece of fabric is $4\frac{1}{6}$ yards long. If $2\frac{1}{4}$ yards are cut off, how many yards remain?

$$4\frac{1}{6} - 2\frac{1}{4} = \frac{50}{12} - \frac{25}{12}$$

$$= \frac{25}{12} = 2\frac{1}{12} \text{ yd}$$

4. A farmer cleared $2\frac{1}{8}$ acres from a $7\frac{5}{12}$ acre lot to build a house. How much of the land is wooded?

$$7\frac{5}{12} - 2\frac{1}{8} = \frac{89}{12} - \frac{17}{8}$$

$$= \frac{178}{24} - \frac{51}{24}$$

$$= \frac{127}{24} = 5\frac{7}{24} \text{ acres}$$

MULTIPLICATION

Applications

5. A person has two cats, Benson and Sadie. If Sadie weighs $11\frac{5}{9}$ pounds and Benson weighs $1\frac{5}{16}$ times the weight of Sadie, how much does Benson weigh?

$$11\frac{5}{9} \cdot 1\frac{5}{16} = \frac{1315}{72} \cdot \frac{217}{162}$$

$$= \frac{91}{6}$$

$$= 15\frac{1}{6} \text{ lbs}$$

6. If bathtub contains $28\frac{3}{4}$ gallons of water. How much water is left in the tub if $\frac{2}{5}$ of the water is drained?

$$28\frac{3}{4} \cdot \frac{2}{5} = \frac{2315}{24} \cdot \frac{2}{5} = \frac{23}{2} = 11\frac{1}{2}$$

$$28\frac{3}{4} - 11\frac{1}{2} = \frac{115}{4} - \frac{23}{2}$$

$$= \frac{115}{4} - \frac{46}{4}$$

$$= \frac{69}{4} = 17\frac{1}{4} \text{ gal}$$

DIVISION

Applications

7. A bag contains $2\frac{5}{8}$ pounds of candy. If the candy is equally distributed to six children, how many pounds will each child get?

$$2\frac{5}{8} \div 6 = \frac{21}{8} \cdot \frac{1}{6}$$

$$= \frac{7}{16} \text{ lb}$$

8. An art teacher is pouring $74\frac{2}{3}$ ounces of paint into cups for her students to use. If each cup can hold a maximum of 4 ounces, how many cups does she need?

$$74\frac{2}{3} \div 4 = \frac{224}{3} \cdot \frac{1}{4}$$

$$= \frac{56}{3}$$

19 cups

MIXED

Applications

9. Dana needs $1\frac{2}{3}$ yards of fabric to make a flag. If she has 31 $\frac{1}{4}$ yards of fabric, how many flags can she make?

$$31\frac{1}{4} \div 1\frac{2}{3} = \frac{251}{4} \cdot \frac{3}{5}$$

$$= \frac{753}{4}$$

$$= 18\frac{3}{4}$$

18 $\frac{3}{4}$ flags

10. A tank contains $14\frac{5}{8}$ gallons of water. If 11 $\frac{13}{40}$ gallons are drained from the tank, how much water is left?

$$14\frac{5}{8} - 11\frac{13}{40} = \frac{117}{8} - \frac{453}{40}$$

$$= \frac{585}{40} - \frac{453}{40}$$

$$= \frac{132}{40}$$

$$= \frac{33}{10} = 3\frac{3}{10} \text{ gal}$$

11. Evan ran 6 miles. He ran the first mile in $8\frac{1}{3}$ minutes and the second mile $1\frac{8}{15}$ minutes faster than the first mile. Find his total time.

$$8\frac{1}{3} + (8\frac{1}{3} - 1\frac{8}{15})$$

$$= \frac{25}{3} + (\frac{25}{3} - \frac{23}{15})$$

$$= \frac{25}{3} + (\frac{125}{15} - \frac{23}{15})$$

$$= \frac{125}{15} + \frac{102}{15} = \frac{227}{15} = 15\frac{2}{15} \text{ min}$$

12. Jake weighs $73\frac{7}{15}$ pounds. If Hunter weighs $\frac{5}{6}$ the weight of Jake, find the difference in their weights.

$$73\frac{7}{15} \cdot \frac{5}{6} = \frac{1102}{3} \cdot \frac{5}{6}$$

$$= \frac{551}{9} = 61\frac{2}{9}$$

$$73\frac{7}{15} - 61\frac{2}{9} = \frac{1102}{15} - \frac{551}{9}$$

$$= \frac{3306}{45} - \frac{2755}{45}$$

$$= \frac{551}{45} = 12\frac{11}{45} \text{ lb}$$

FRACTION APPLICATIONS *Relay Puzzle!*

Directions: Follow the arrows to solve each problem. Use the answer from your previous problem to fill in the blank in the next problem. Work through the page until you reach the end. Show all work neatly on separate sheet of paper.

START! 1 Max has a bag that contains $4\frac{5}{6}$ pounds of fertilizer. If he uses $1\frac{1}{2}$ pounds, how many pounds of fertilizer are left in the bag? $3\frac{1}{3}$ lb	2 Nia's normal running route is $3\frac{1}{3}$ miles. If she ran this route $3\frac{3}{4}$ times this week, find the total number of miles she ran. $12\frac{1}{2}$ mi	3 A man weighs $12\frac{1}{2}$ pounds in 8 weeks. If his weight loss remained constant each week, how many pounds did he lose each week? $\frac{1}{16}$ lb
6 Karen has a piece of fabric that is $1\frac{7}{12}$ yards long. If she needs a piece that is $\frac{5}{6}$ yards long, how many yards should she trim? $\frac{3}{4}$ yd	5 A snowman dropped $1\frac{1}{4}$ feet of snow. If $\frac{1}{4}$ of the snow has melted, how many feet of snow remains? $1\frac{1}{4}$ ft	4 Elena's math exam had two parts. It took her $\frac{5}{12}$ hours to complete the first part and $1\frac{9}{16}$ hours to complete the second part. How many hours did it take Elena to complete the exam? $1\frac{47}{48}$ hr
7 How many pieces of wood can be cut from a board that is $10\frac{7}{8}$ feet long if each piece is $\frac{3}{4}$ feet long? $14\frac{1}{2} \rightarrow 14$ pieces	8 Vance combined $2\frac{13}{15}$ pounds of peanuts with $1\frac{1}{3}$ pounds of raisins to create trail mix, then equally distributed the mix to 14 bags. How many pounds of trail mix are in each bag? $\frac{3}{10}$ lb	9 When a tree was planted, it was $3\frac{3}{10}$ feet tall. It is now $1\frac{5}{9}$ times taller. How many feet has the tree grown since it was planted? $1\frac{5}{6}$ ft END!

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 7: Fraction Operations Applications

**** This is a 2-page document! ******Directions:** Read each problem carefully, then solve.

1. Greg dropped a bouncy ball. It reached $5\frac{1}{3}$ feet on the first bounce, then $\frac{9}{20}$ as high on the second bounce. How high did the ball reach on the second bounce?

$$5\frac{1}{3} \cdot \frac{9}{20} = \frac{4\cancel{16}}{\cancel{1}3} \cdot \frac{9\cancel{3}}{20\cancel{5}}$$

$$= \frac{4}{1} \cdot \frac{3}{5}$$

$$= \frac{12}{5} = \boxed{2\frac{2}{5} \text{ ft}}$$

2. Natalie and Caroline went fishing. Natalie caught a fish that weighed $12\frac{5}{6}$ pounds. Caroline caught a fish that weighed $8\frac{7}{10}$ pounds. How much heavier is Natalie's fish?

$$12\frac{5}{6} - 8\frac{7}{10} = \frac{124}{10} - \frac{87}{10} = \frac{37}{10} = \boxed{3\frac{7}{10} \text{ lb}}$$

3. A cleaner is made by combining $2\frac{5}{12}$ cups of cleaning solution with $5\frac{3}{4}$ cups of water in a sprayer bottle. How many cups of cleaner are in the bottle?

$$2\frac{5}{12} + 5\frac{3}{4} = \frac{29}{12} + \frac{69}{12}$$

$$= \frac{98}{12} = \boxed{8\frac{1}{3} \text{ cups}}$$

4. Camille's snake was $20\frac{1}{4}$ inches long at birth. If he is now $22\frac{1}{2}$ inches long, how many times longer is he than his birth length?

$$22\frac{1}{2} \div 20\frac{1}{4} = \frac{45}{2} \div \frac{81}{4}$$

$$= \frac{45}{2} \cdot \frac{4}{81}$$

$$= \frac{10}{9} = \boxed{1\frac{1}{9} \text{ times longer}}$$

5. Kayleigh rode her bike and walked $1\frac{5}{6}$ miles. How far did she travel in total?

$$4\frac{8}{9} + 1\frac{5}{6} = \frac{48}{9} + \frac{11}{6}$$

$$= \frac{88}{18} + \frac{33}{18}$$

$$= \frac{121}{18} = \boxed{6\frac{13}{18} \text{ miles}}$$

6. An orchestra is playing a piece that is $6\frac{3}{8}$ minutes long. If they are $\frac{2}{3}$ through the piece, how many minutes are left?

$$6\frac{3}{8} \cdot \frac{2}{3} = \frac{17\cancel{51}}{48} \cdot \frac{2}{3\cancel{1}}$$

$$= \frac{17}{4} = 4\frac{1}{4} \text{ min}$$

$$6\frac{3}{8} - 4\frac{1}{4} = \frac{51}{8} - \frac{17}{4}$$

$$= \frac{51}{8} - \frac{34}{8} = \frac{17}{8} = \boxed{2\frac{1}{8} \text{ min}}$$

7. Lisa has a piece of wood that is $12\frac{1}{5}$ feet long. If she is cutting the wood into pieces that are $1\frac{3}{5}$ feet long, what is the maximum number of pieces she can cut?

$$12\frac{1}{5} \div 1\frac{3}{5} = \frac{61}{5} \div \frac{8}{5}$$

$$= \frac{61}{5} \cdot \frac{5}{8}$$

$$= \frac{61}{8} = 7\frac{5}{8}$$

7 pieces

8. A bag contains $3\frac{7}{10}$ pounds of peanuts. If Joe eats $1\frac{11}{15}$ pounds, how many pounds of peanuts are left in the bag?

$$3\frac{7}{10} - 1\frac{11}{15} = \frac{37}{10} - \frac{26}{15}$$

$$= \frac{111}{30} - \frac{52}{30}$$

$$= \frac{59}{30} = 1\frac{29}{30}$$

9. Zac combined $5\frac{2}{3}$ cups of iced tea with $3\frac{1}{12}$ cups of lemonade. If he divides the drink evenly among 5 people, how many cups will each person get?

$$5\frac{2}{3} + 3\frac{1}{12} = \frac{17}{3} + \frac{37}{12}$$

$$= \frac{68}{12} + \frac{37}{12} = \frac{105}{12} = \frac{35}{4} = 8\frac{3}{4}$$

$$8\frac{3}{4} \div 5 = \frac{35}{4} \div 5$$

$$= \frac{35}{4} \cdot \frac{1}{5} = \frac{7}{4} = 1\frac{3}{4} \text{ cups}$$

10. Mary has $7\frac{1}{2}$ square feet of paper. She needs $3\frac{1}{5}$ more paper than what she has. How many more feet of paper does she need?

$$7\frac{1}{2} + 3\frac{1}{5} = \frac{15}{2} + \frac{6}{5}$$

$$= \frac{75}{10} + \frac{12}{10} = \frac{87}{10} = 8\frac{7}{10}$$

Write a word problem that can be solved using the given expression. Then solve.

11. $2\frac{5}{6} - \frac{7}{18}$ Ella's hair is $2\frac{5}{6}$ long. If she cuts $\frac{7}{18}$ feet of hair to donate, how long is her hair?

Solve:

$$2\frac{5}{6} - \frac{7}{18} = \frac{17}{6} - \frac{7}{18}$$

$$= \frac{51}{18} - \frac{7}{18}$$

$$= \frac{44}{18}$$

$$= \frac{22}{9}$$

$$= 2\frac{4}{9} \text{ ft.}$$

12. $12\frac{3}{4}$ Richard threw a football $12\frac{3}{4}$ meters. His brother Thomas threw the same football $\frac{8}{15}$ of the distance. How far did Thomas throw the ball?

Solve:

$$12\frac{3}{4} \cdot \frac{8}{15} = \frac{51}{4} \cdot \frac{8}{15}$$

$$= \frac{17 \cdot 2}{1 \cdot 5}$$

$$= \frac{34}{5}$$

$$= 6\frac{4}{5} \text{ meters}$$

Name: _____

Math 6

Date: _____ Per: _____

Unit 3: Rational Numbers

Quiz 3-2: All Fraction Operations & Applications**Directions:** Find each sum, difference, product, or quotient. Give each answer as a mixed number in simplest form.

1. $\frac{2}{3} + \frac{7}{12}$

$$\frac{8}{12} + \frac{7}{12} = \frac{15}{12} = \frac{5}{4}$$

2. $2\frac{1}{6} - \frac{2}{9}$

$$\frac{13}{6} - \frac{2}{9} = \frac{39}{18} - \frac{4}{18} = \frac{35}{18}$$

3. $1\frac{5}{6} + \frac{13}{24}$

$$\frac{11}{6} + \frac{13}{24} = \frac{44}{24} + \frac{13}{24} = \frac{57}{24} = \frac{19}{8}$$

4. $3\frac{3}{10} - 2\frac{7}{15}$

$$\frac{37}{10} - \frac{37}{15} = \frac{119}{30} - \frac{74}{30} = \frac{45}{30} = \frac{3}{2}$$

5. $\frac{1}{5} \cdot \frac{8}{3}$

$$\frac{1}{5} \cdot \frac{8}{3} = \frac{8}{15}$$

6. $\frac{7}{8} \cdot \frac{2}{3}$

$$\frac{7}{8} \cdot \frac{2}{3} = \frac{14}{24} = \frac{7}{12}$$

7. $\frac{8}{15} \div \frac{2}{3}$

$$\frac{8}{15} \div \frac{2}{3} = \frac{8}{15} \cdot \frac{3}{2} = \frac{24}{30} = \frac{4}{5}$$

8. $2\frac{7}{10} \div 4\frac{1}{5}$

$$\frac{27}{10} \div \frac{21}{5} = \frac{27}{10} \cdot \frac{5}{21} = \frac{135}{210} = \frac{9}{14}$$

9. $\frac{1}{16} + \frac{1}{8} + \frac{9}{10}$

$$\frac{1}{16} + \frac{2}{16} + \frac{19}{20} = \frac{3}{16} + \frac{19}{20}$$

$$\frac{1}{16} + \frac{19}{16} = \frac{20}{16} = \frac{5}{4}$$

10. $1\frac{1}{6} - \frac{1}{5} + 1\frac{1}{2}$

$$\frac{7}{6} - \frac{1}{5} + \frac{3}{2}$$

$$\frac{35}{30} - \frac{6}{30} + \frac{3}{2} = \frac{29}{30} + \frac{45}{30} = \frac{74}{30} = \frac{37}{15}$$

1. $\frac{5}{4}$
2. $\frac{35}{18}$
3. $\frac{19}{8}$
4. $\frac{3}{2}$
5. $\frac{8}{15}$
6. $\frac{7}{12}$
7. $\frac{4}{5}$
8. $\frac{9}{14}$
9. $1\frac{1}{4}$
10. $2\frac{7}{15}$

Directions: Read each problem carefully and solve.

11. Alyssa used a can of paint that was $\frac{5}{6}$ full to touch paint in her house. When she was done, the bucket was $\frac{11}{30}$ full. What fraction of the can did she use?

$$\frac{5}{6} - \frac{11}{30} = \frac{25}{30} - \frac{11}{30} = \frac{14}{30} = \frac{7}{15}$$

12. Each bag of sand weighs $7\frac{1}{8}$ pounds. Find the total weight of $6\frac{2}{3}$ bags.

$$7\frac{1}{8} \cdot 6\frac{2}{3} = \frac{57}{8} \cdot \frac{20}{3}$$

$$= \frac{19}{2} \cdot \frac{5}{1} = \frac{95}{2} = 47\frac{1}{2}$$

13. It takes Casey $2\frac{3}{16}$ minutes to complete one lap around the track. If he has 40 minutes, how many full laps can he complete?

$$40 \div 2\frac{3}{16} = \frac{40}{1} \cdot \frac{16}{3}$$

$$= \frac{640}{3} = 213\frac{1}{3}$$

14. Lanson biked $1\frac{1}{9}$ miles to the store and then $1\frac{4}{9}$ miles to the park. How far did he bike altogether?

$$1\frac{1}{9} + 1\frac{4}{9} = \frac{10}{9} + \frac{13}{9}$$

$$= \frac{23}{9} = 2\frac{5}{9}$$

15. A car had $14\frac{4}{5}$ gallons of gas in her car at the beginning of the week. At the end of the week, she had $6\frac{1}{3}$ gallons. If $\frac{3}{4}$ of the gallons used were from driving to and from work, how many gallons were used for work?

$$14\frac{4}{5} - 6\frac{1}{3} = \frac{74}{5} - \frac{19}{3} = \frac{222}{15} - \frac{95}{15} = \frac{127}{15} = 8\frac{7}{15}$$

$$8\frac{7}{15} \cdot \frac{3}{4} = \frac{127}{5} \cdot \frac{3}{4} = \frac{127}{20} = 6\frac{7}{20}$$

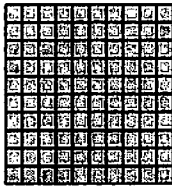
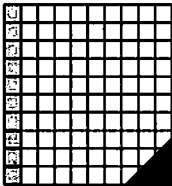
11. $\frac{7}{15}$

12. $47\frac{1}{2}$

13. $213\frac{1}{3}$

15. $6\frac{1}{3}$ gallons

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples																																																
BASE-TEN SYSTEM	The base-ten system can be used to model a part of a whole.  1 one (1 whole)  1 ten  1 hundred																																																
DECIMALS <i>& place value</i>	A decimal is a number written using a base-ten place value system. The decimal separates the whole number part from the part that is less than one. <table><tr><th colspan="4">whole number</th><th colspan="4">less than one</th></tr><tr><th>hundreds</th><th>tens</th><th>ones</th><th>tenths</th><th>hundredths</th><th>thousandths</th><th>ten-thousandths</th><th>hundred-thousandths</th></tr><tr><td></td><td></td><td></td><td></td><td>3</td><td>0</td><td>0</td><td>0</td></tr></table> Standard Form: <u>1.03</u> Expanded Form: <u>1 + 0.03 + 0.000</u> Word Form: <u>one and thirty hundredths</u> Write each number in standard form. <table><tr><td>1. seven and five tenths</td><td>2. seventy-eight hundredths</td></tr><tr><td></td><td><u>0.78</u></td></tr><tr><td>3. three and sixty-one hundredths</td><td>4. four and seven thousandths</td></tr><tr><td><u>3.61</u></td><td><u>4.007</u></td></tr><tr><td>5. eighty-nine and two tenths</td><td>6. twenty-five ten-thousandths</td></tr><tr><td><u>89.2</u></td><td><u>0.0025</u></td></tr><tr><td>7. one hundred forty-seven and six thousandths</td><td>8. seventy-three and nineteen hundredths</td></tr><tr><td><u>147.006</u></td><td><u>73.19</u></td></tr></table> Write each decimal using words. <table><tr><td>9. 5.9</td><td><u>Five and nine tenths</u></td></tr><tr><td>10. 0.04</td><td><u>Four hundredths</u></td></tr><tr><td>11. 17.28</td><td><u>Seventeen and twenty-eight hundredths</u></td></tr><tr><td>12. 3.061</td><td><u>Three and sixty-one thousandths</u></td></tr></table>	whole number				less than one				hundreds	tens	ones	tenths	hundredths	thousandths	ten-thousandths	hundred-thousandths					3	0	0	0	1. seven and five tenths	2. seventy-eight hundredths		<u>0.78</u>	3. three and sixty-one hundredths	4. four and seven thousandths	<u>3.61</u>	<u>4.007</u>	5. eighty-nine and two tenths	6. twenty-five ten-thousandths	<u>89.2</u>	<u>0.0025</u>	7. one hundred forty-seven and six thousandths	8. seventy-three and nineteen hundredths	<u>147.006</u>	<u>73.19</u>	9. 5.9	<u>Five and nine tenths</u>	10. 0.04	<u>Four hundredths</u>	11. 17.28	<u>Seventeen and twenty-eight hundredths</u>	12. 3.061	<u>Three and sixty-one thousandths</u>
whole number				less than one																																													
hundreds	tens	ones	tenths	hundredths	thousandths	ten-thousandths	hundred-thousandths																																										
				3	0	0	0																																										
1. seven and five tenths	2. seventy-eight hundredths																																																
	<u>0.78</u>																																																
3. three and sixty-one hundredths	4. four and seven thousandths																																																
<u>3.61</u>	<u>4.007</u>																																																
5. eighty-nine and two tenths	6. twenty-five ten-thousandths																																																
<u>89.2</u>	<u>0.0025</u>																																																
7. one hundred forty-seven and six thousandths	8. seventy-three and nineteen hundredths																																																
<u>147.006</u>	<u>73.19</u>																																																
9. 5.9	<u>Five and nine tenths</u>																																																
10. 0.04	<u>Four hundredths</u>																																																
11. 17.28	<u>Seventeen and twenty-eight hundredths</u>																																																
12. 3.061	<u>Three and sixty-one thousandths</u>																																																

COMPARING

& ordering

Place value can be used to compare decimals by lining up the numbers at the decimal. Insert zeros so that each number has the same number of digits following the decimal. Compare the numbers below using a $<$, $>$, or $=$ symbol:

$$0.17 \quad > \quad 0.0932$$

Compare using a $<$, $>$, or $=$ symbol.

$$13. \quad 4.08 \quad < \quad 4.203$$

$$14. \quad 0.70 \quad > \quad 0.7$$

$$15. \quad 1.159 \quad < \quad 1.18$$

$$38.00 \quad < \quad 38.6$$

Order from least to greatest:

17. 0.15, 0.008, 0.701
0.008, 0.15, 0.701

18. 2.48, 2.004, 2.0302, 2.48
2.004, 2.0302, 2.48

Order from greatest to least:

19. 7.042, 7.09, 7.0751
7.09, 7.0751, 7.042

1.01, 1.101, 1.11
1.11, 1.101, 1.01

21. Mike ran the 50-yard dash in 10.012 seconds. If the school record was 10.009 seconds, did he beat the school record?

his time was higher than the record

ROUNDING

decimals

To round a decimal to a given place value, look at the digit to the right of the place value. If this digit is 5 or higher, we round up. If the digit is less than 5, we round down.

Round each number to the indicated place value.

22. 0.256; tenths
0.3

23. 1.33333; hundredths
1.33

24. 58.90261; thousandths
58.903

25. 9.04; tenths
9.0

26. 2.2958; hundredths
2.30

27. 16.2832519; ten-thousandths
16.2833

28. The atomic weight of iron is 55.845. What is the atomic weight of iron to the nearest hundredth?

55.85

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 8: Decimals & Place Value

Directions: Write the number as a decimal in standard form.

1. fifty-nine thousandths

0.059

2. twelve and seven tenths

12.7

3. one hundred eight and four hundredths

108.04

4. thirty-one and sixty-five thousandths

31.0065

5. nine and eight thousandths

9.008

6. one-thousand forty-one hundredths

1040.41

Directions: Write each decimal using words.

7. 4.28

four and twenty eight hundredths

8. 18.007

eighteen and seven thousandths

9. 92.1

ninety-two and one tenth

10. 156.014

one hundred fifty six and fourteen thousandths

Directions: Compare using a $<$, $>$, or $=$ symbol.11. 3.009 $<$ 3.0212. 1.90 $<$ 1.913. 0.201 $>$ 0.1084

14. Order from least to greatest:

16.04, 16.1, 16.0092

16.0092, 16.04, 16.1

15. Order from greatest to least:

0.0702, 0.00095, 0.1014

0.1014, 0.0702, 0.00095

16. If Jeremy has a bowling average of 150.14 and Mia has a bowling average of 150.098, who has the better average?

Jeremy

17. Mia's top three times for the 1600-meter run are 6.07, 6.112, and 6.045 minutes. Which of these times is her fastest run?

6.045 min

Directions: Round each number to the indicated place value.

18. 2.08; hundredths

2.08

19. 13.951; tenths

14.0

20. 14.021555; ten-thousandths

14.0216

21. 101.62; thousandths

101.62

22. 340.172; hundredths

340.17

23. 8.099; tenths

8.1

24. Samantha spent \$24.49 on lunch. To the nearest dollar, how much did she spent on lunch?

\$24

25. The width of a board is 5.10529 inches. Round the width of the board to the nearest thousandth of an inch.

5.105 in

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples	
ADDING & SUBTRACTING decimals	To add or subtract decimals:	
	①	Line up the decimal points.
	②	Insert zeros when necessary as place holder.
	③	Add or subtract as you normally would, lining up decimal points.
	EXAMPLE 1	$7.19 + 3.54$ $\begin{array}{r} 7.19 \\ + 3.54 \\ \hline 10.73 \end{array}$
		EXAMPLE 2
		$2.372 + 14.800$ $\begin{array}{r} 2.372 \\ + 14.800 \\ \hline 17.172 \end{array}$
	EXAMPLE 3	EXAMPLE 4
	$6.407 - 2.192$ $\begin{array}{r} 6.407 \\ - 2.192 \\ \hline 4.215 \end{array}$	$42.3 - 3.905$ $\begin{array}{r} 42.300 \\ - 3.905 \\ \hline 38.395 \end{array}$
	Find each difference.	
	$5.91 + 8.308$ $\begin{array}{r} 5.910 \\ + 8.308 \\ \hline 14.218 \end{array}$	$2.724 - 3.98$ $\begin{array}{r} 2.724 \\ - 3.98 \\ \hline 3.26 \end{array}$
	$3.67 - 2.156$ $\begin{array}{r} 3.670 \\ - 2.156 \\ \hline 1.514 \end{array}$	$4.7981 + 8.5$ $\begin{array}{r} 4.7981 \\ + 8.500 \\ \hline 13.2981 \end{array}$

$$\begin{array}{r} 5.21 - 16.83 \\ ^1^{10}^9^{10} \\ 21.\cancel{00} \\ - 16.83 \\ \hline 4.17 \end{array}$$

4.17

$$\begin{array}{r} 47.630 \\ + 23.496 \\ \hline 71.126 \end{array}$$

71.6

$$\begin{array}{r} 7.27.001 - 18.64 \\ ^1 ^{16} ^9 ^{10} \\ 27.001 \\ - 18.640 \\ \hline 8.361 \end{array}$$

8.361

$$\begin{array}{r} 8.39.985 + 68.930 \\ \hline 77.329.915 \end{array}$$

108.9151

$$\begin{array}{r} 9.703 + 11 - 2.518 \\ 7.03 \\ + 11.00 \\ \hline 18.03 \end{array}$$

512

$$\begin{array}{r} 0.442 \\ + 6.820 \\ \hline 7.262 \end{array}$$

7.262

APPLICATIONS

11. If Solution A is 3.8 minutes faster than Solution B, how many more minutes is Solution C than Solution B?

$$\begin{array}{r} -3.0 \\ \hline .22 \end{array}$$

0.22 min

12. Casey had \$560.94 in his checking account. If he deposits a check for \$96.18, then spends \$17.05 on lunch, find his new balance.

$$\begin{array}{r} 560.94 \\ + 96.18 \\ \hline 657.12 \end{array}$$

$$\begin{array}{r} 657.12 \\ - 17.05 \\ \hline 640.07 \end{array}$$

\$640.07

3. Earth is approximately 390.84 million miles closer to the Sun than Jupiter. If Jupiter is 483.8 million miles to the Sun, find the distance from Earth to the Sun.

$$\begin{array}{r} 318217^{10} \\ 483.80 \\ - 390.84 \\ \hline 92.96 \end{array}$$

92.96 million miles

14. Jacksonville, Florida, is 554.58 miles from Charleston, West Virginia. Charleston is 217.8 miles from Cleveland, Ohio. If the three cities lie on the same longitude, find the distance from Jacksonville to Cleveland.

$$\begin{array}{r} 554.58 \\ + 217.80 \\ \hline 772.38 \end{array}$$

772.38 mi

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 9: Adding & Subtracting Decimals

Directions: Find each sum or difference.

1. $16.749 + 0.826$

$$\begin{array}{r} 16.749 \\ + 0.826 \\ \hline 17.575 \end{array}$$

17.575

2. $23.4 - 18.9$

$$\begin{array}{r} 23.4 \\ - 18.9 \\ \hline 4.5 \end{array}$$

4.5

3. $7.6 - 2.83$

$$\begin{array}{r} 7.60 \\ - 2.83 \\ \hline 4.77 \end{array}$$

4.77

4. $6.25 + 11.952$

$$\begin{array}{r} 6.250 \\ + 11.952 \\ \hline 18.202 \end{array}$$

18.202

5. $15 - 9.48$

$$\begin{array}{r} 15.00 \\ - 9.48 \\ \hline 5.52 \end{array}$$

5.52

6. $11.6 - 2.57$

$$\begin{array}{r} 11.600 \\ - 2.570 \\ \hline 9.030 \end{array}$$

9.03

7. If helium has an atomic weight of 4.0026 and oxygen has an atomic weight of 15.999, find the difference in their atomic weights.

$$\begin{array}{r} 15.999 \\ - 4.0026 \\ \hline 11.9964 \end{array}$$

11.9964

8. In the 100-meter free style, a swimmer swam the first half in 32.4 seconds and the second half in 32.4 seconds. If his previous record was 64.01 seconds, did he beat his record?

$$\begin{array}{r} 32.40 \\ + 32.40 \\ \hline 64.80 \end{array}$$

No he did not beat the record.

9. Susan has a coffee shop and with a balance of \$10. If she used her card to purchase a coffee for \$3.89, how much balance does she have left?

$$\begin{array}{r} 10.00 \\ - 3.89 \\ \hline 6.11 \end{array}$$

\$6.11

10. Jeremy ran several laps around the track. He completed his last lap track in 1.89 minutes, which was 0.35 minutes less than his first lap. How many minutes did it take him to complete his first lap?

$$\begin{array}{r} 1.89 \\ + 0.35 \\ \hline 2.24 \end{array}$$

2.24 min

11. A baby boy was born weighing 7.12 pounds. The next day, he had lost 0.8 pounds. He was weighed again the following day before going home with his mother. If he had gained 0.29 pounds, find his weight when he left the hospital.

$$\begin{array}{r} 7.12 \\ - 0.80 \\ \hline 6.32 \end{array}$$

$$\begin{array}{r} 6.32 \\ + 0.29 \\ \hline 6.61 \end{array}$$

6.61 lb

12. Darryl set a timer for 35 minutes to work out. If he finishes his work out after 32.84 minutes, how much time is left the timer?

$$\begin{array}{r} 35.00 \\ - 32.84 \\ \hline 2.16 \end{array}$$

2.16 min

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

MULTIPLYING decimals

To add or subtract decimals:

- ① Line up the factors so that the last digit in each number is in the same column.
- ② Multiply as you would with whole numbers.
- ③ Find the total number of digits past the decimal in each factor. The product will have this number of digits past the decimal.

EXAMPLE 1

$$4.68 \times 8$$

$$\begin{array}{r} 4.68 \\ \times 8 \\ \hline 37.44 \end{array}$$

37.44

EXAMPLE 2

$$0.092(4)$$

$$\begin{array}{r} 0.092 \\ \times 4 \\ \hline 0.368 \end{array}$$

0.368

EXAMPLE 3

$$5.8 \times 2.2$$

$$\begin{array}{r} 5.8 \\ \times 2.2 \\ \hline 116 \\ 1160 \\ \hline 12.76 \end{array}$$

12.76

EXAMPLE 4

$$1.3(12.452)$$

$$\begin{array}{r} 12.452 \\ \times 1.3 \\ \hline 37356 \\ 124520 \\ \hline 16.1876 \end{array}$$

16.1876

Find each product.

$$1.765 \times 2$$

$$\begin{array}{r} 1.765 \\ \times 2 \\ \hline 3.530 \end{array}$$

3.53

$$2.2178(15)$$

$$\begin{array}{r} 2.2178 \\ \times 15 \\ \hline 10890 \\ 221780 \\ \hline 33.2670 \end{array}$$

33.267

$$3. 0.6(0.3)$$

$$\begin{array}{r} 0.6 \\ \times 0.3 \\ \hline .18 \end{array}$$

0.18

$$4. 1.02 \times 0.8$$

$$\begin{array}{r} 1.02 \\ \times 0.8 \\ \hline .816 \end{array}$$

0.816

5. $0.005(0.04)$

$$\begin{array}{r} 0.005 \\ \times 0.04 \\ \hline .00020 \end{array}$$

0.00020

6. 13.84×0.97

$$\begin{array}{r} 13.84 \\ \times 0.97 \\ \hline 9688 \\ 124560 \\ \hline 13.4248 \end{array}$$

7. 8.1×3.72

$$\begin{array}{r} 3.72 \\ \times 8.1 \\ \hline 372 \\ 29760 \\ \hline 30.132 \end{array}$$

30.132

8. $1.9(12.408)$

$$\begin{array}{r} 12.408 \\ \times 1.9 \\ \hline 111672 \\ 24780 \\ \hline 23.5752 \end{array}$$

23.5752

9. $0.0032(14.9)$

$$\begin{array}{r} 0.0032 \\ \times 14.9 \\ \hline 288 \\ 1280 \\ 3200 \\ \hline .04768 \end{array}$$

0.04768

10. 16.25×25

$$\begin{array}{r} 16.25 \\ \times 25 \\ \hline 8125 \\ 32500 \\ \hline 412.75 \end{array}$$

412.75

APPLICATIONS

11. A plant is growing at a rate of 0.65 inches each day. If the plant is 12 inches tall now, how tall will it be in 12 days?

$$\begin{array}{r} 12 \\ \times 0.65 \\ \hline 60 \\ 720 \\ \hline 7.8 \end{array}$$

7.8in

12. Alana bought 2.45 pounds of oranges. If the oranges cost \$1.39 per pound, find the total cost.

$$\begin{array}{r} 2.45 \\ \times 1.39 \\ \hline 2205 \\ 7350 \\ 24500 \\ \hline 3.4055 \end{array}$$

\$3.41

13. Greg's car gets approximately 18.9 miles to the gallon. If he is trading in his car for a new car that gets 1.25 times this, how many miles per gallon does the new car get?

$$\begin{array}{r} 18.9 \\ \times 1.25 \\ \hline 945 \\ 3780 \\ 18900 \\ \hline 23.625 \end{array}$$

23.625
mi per gal

14. Pumpkins cost \$0.79 per pound at the fall carnival. If Misha picks out a pumpkin that weighs 21.82 pounds and pays with a \$20 bill, how much change will she receive?

$$\begin{array}{r} 21.82 \\ \times 0.79 \\ \hline 19638 \\ 52740 \\ \hline 17.2378 \end{array}$$

$$\begin{array}{r} 20.00 \\ - 17.24 \\ \hline 2.76 \end{array}$$

\$2.76

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 10: Multiplying Decimals

Directions: Find each product.

1. 2.87×9

$$\begin{array}{r} 2.87 \\ \times 9 \\ \hline 25.83 \end{array}$$

25.83

2. 0.62×0.45

$$\begin{array}{r} 0.62 \\ \times 0.45 \\ \hline 310 \\ 2480 \\ \hline .2790 \end{array}$$

0.279

3. 0.008×15.4

$$\begin{array}{r} 0.008 \\ \times 15.4 \\ \hline 32 \\ 400 \\ \hline .1232 \end{array}$$

.1232

4. $5.17(21.2)$

$$\begin{array}{r} 5.17 \\ \times 21.2 \\ \hline 1034 \\ 5170 \\ 103400 \\ \hline 109.604 \end{array}$$

109.604

5. $6.8(0.0024)$

$$\begin{array}{r} 0.0024 \\ \times 6.8 \\ \hline 192 \\ 1440 \\ \hline .01632 \end{array}$$

0.01632

6. $3.152(1526)$

$$\begin{array}{r} 3.152 \\ \times 1526 \\ \hline 18912 \\ 31520 \\ 94560 \\ 315200 \\ \hline 4808526 \end{array}$$

4.85268

7. A bottle of water contains 16.9 ounces. How many total ounces of water are there in a case with 24 bottles?

$$\begin{array}{r} 16.9 \\ \times 24 \\ \hline 676 \\ 3380 \\ \hline 405.60 \end{array}$$

405.60

8. Catalya's credit card offers cash back rewards. If she receives \$0.04 back for each dollar she spends, how much cash back will she receive if she charges \$861.95?

$$\begin{array}{r} 861.95 \\ \times 0.04 \\ \hline 34.4780 \end{array}$$

\$34.48

9. A pound of turkey costs \$4.85 and a pound of ham costs \$5.19. If turkey costs \$6.49 per pound and ham costs \$4.85 per pound, what is the total cost?

$$\begin{array}{r} 4.85 \\ \times 1.45 \\ \hline 2425 \\ 19400 \\ 48500 \\ \hline 7.0325 \end{array}$$

$$\begin{array}{r} 5.19 \\ + 7.03 \\ \hline 12.22 \end{array}$$

\$12.22

10. Abraham ran 3.18 miles on Monday. On Tuesday, he ran 1.6 times further than he did on Monday. How many more miles did he run on Tuesday than on Monday?

$$\begin{array}{r} 3.18 \\ \times 1.6 \\ \hline 1908 \\ 3180 \\ \hline 5.088 \end{array}$$

$$\begin{array}{r} 5.088 \\ - 3.180 \\ \hline 1.908 \end{array}$$

1.908 mi

Main Ideas/Questions	Notes/Examples
DIVIDING by Whole Numbers Recall: The first number, or top number, is called the dividend and goes in the box. The second number, or bottom number, is called the divisor and goes outside the box.	To divide a number by a whole number: - Slide the decimal up. - Divide as if you are dividing whole numbers. - Insert zeros in the dividend when necessary.
	EXAMPLE 1 $42.3 \div 9$ $\begin{array}{r} 4.7 \\ 9 \overline{) 42.3} \\ \underline{-36} \\ 63 \\ \underline{-63} \\ 0 \end{array}$ EXAMPLE 2 $58.4 \div 6$ $\begin{array}{r} 9.7 \\ 6 \overline{) 58.4} \\ \underline{-48} \\ 104 \\ \underline{-96} \\ 80 \\ \underline{-78} \\ 20 \\ \underline{-18} \\ 20 \\ \underline{-18} \\ 20 \\ \underline{-18} \\ 20 \end{array}$
	EXAMPLE 3 $34.5 \div 13$ $\begin{array}{r} 2.65 \\ 13 \overline{) 34.50} \\ \underline{-26} \\ 80 \\ \underline{-78} \\ 20 \\ \underline{-13} \\ 70 \\ \underline{-65} \\ 50 \\ \underline{-39} \\ 110 \\ \underline{-104} \\ 60 \\ \underline{-52} \\ 80 \\ \underline{-78} \\ 20 \end{array}$ EXAMPLE 4 $0.72 \div 18$ $\begin{array}{r} 0.04 \\ 18 \overline{) 0.72} \\ \underline{-0} \\ 72 \\ \underline{-72} \\ 0 \end{array}$
	EXAMPLE 5 $43.26 \div 3$ $\begin{array}{r} 14.42 \\ 3 \overline{) 43.26} \\ \underline{-3} \\ 13 \\ \underline{-12} \\ 12 \\ \underline{-12} \\ 06 \\ \underline{-6} \\ 0 \end{array}$ EXAMPLE 6 $1.52 \div 8$ $\begin{array}{r} 0.19 \\ 8 \overline{) 1.52} \\ \underline{-8} \\ 72 \\ \underline{-72} \\ 0 \end{array}$

APPLICATIONS

1. If 50.4 ounces of lemonade is poured equally into 8 cups, how many ounces are in in cup?

$$\begin{array}{r} 6.3 \\ 8 \overline{) 50.4} \\ \underline{-48} \\ 24 \\ \underline{-24} \\ 0 \end{array}$$

6.3 oz

2. Eliza paid \$16.80 for a 40-pound bag of dog food. Find the cost per pound.

$$\begin{array}{r} .42 \\ 40 \overline{) 16.80} \\ \underline{-16} \\ 80 \\ \underline{-80} \\ 0 \end{array}$$

\$0.42/lb

3. Marcy pays per text message that she sends. If she sent 16.12 text messages last month and paid \$16.12, how much does she pay per message?

$$\begin{array}{r} .13 \\ 16.12 \overline{) 16.12} \\ \underline{-16} \\ 12 \\ \underline{-12} \\ 0 \end{array}$$

\$0.13/message

4. Tom and his sisters went out to eat. The bill came to \$47.22 and they shared the bill equally. How much did each person pay?

$$\begin{array}{r} 15.74 \\ 3 \overline{) 47.22} \\ \underline{-3} \\ 17 \\ \underline{-15} \\ 22 \\ \underline{-21} \\ 12 \\ \underline{-12} \\ 0 \end{array}$$

\$15.74

5. It took a runner 11.4 seconds to run 100 yards. How many seconds on average did it take the runner to run each yard? Round to the nearest hundredth of a second.

$$\begin{array}{r} .228 \\ 50 \overline{) 11.400} \\ \underline{-100} \\ 140 \\ \underline{-100} \\ 400 \\ \underline{-400} \\ 0 \end{array}$$

0.228 sec

6. There are 11 servings in an 86.4-ounce bottle of orange juice. How many ounces of juice are there per serving? Round to the nearest hundredth of an ounce.

$$\begin{array}{r} 7.854 \\ 11 \overline{) 86.400} \\ \underline{-77} \\ 94 \\ \underline{-88} \\ 60 \\ \underline{-55} \\ 50 \\ \underline{-44} \\ 6 \end{array}$$

7.85 oz

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

DIVIDING
by decimals

To divide a number by a decimal:

- ① Make the divisor a whole number by moving the decimal point to the right.
- ② Move the decimal over in the dividend the same number of places as you did with the divisor. Insert zeros if needed.
- ③ Rewrite the problem and divide.

EXAMPLE 1

$$27.2 \div 1.6 \rightarrow 272 \div 16$$

$$\begin{array}{r} 17 \\ 16 \overline{) 272} \\ \underline{-16} \\ 112 \\ \underline{-112} \\ 0 \end{array}$$

17

EXAMPLE 2

$$13.14 \div 1.8$$

$$\begin{array}{r} 7.3 \\ 18 \overline{) 131.4} \\ \underline{-126} \\ 54 \\ \underline{-54} \\ 0 \end{array}$$

7.3

EXAMPLE 3

$$12.4 \div 0.05$$

$$\begin{array}{r} 122.4 \\ 5 \overline{) 1240} \\ \underline{-10} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

122.4

EXAMPLE 4

$$29.25 \div 2.4 \rightarrow$$

$$292.5 \div 24$$

$$\begin{array}{r} 12.1875 \\ 24 \overline{) 292.5000} \\ \underline{-24} \\ 52 \\ \underline{-48} \\ 45 \\ \underline{-24} \\ 210 \\ \underline{-192} \\ 180 \\ \underline{-168} \\ 120 \\ \underline{-120} \\ 0 \end{array}$$

12.1875

EXAMPLE 5

$$\frac{30}{0.08} \rightarrow \frac{3000}{8}$$

$$\begin{array}{r} 375 \\ 8 \overline{) 3000} \\ \underline{-24} \\ 60 \\ \underline{-56} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

375

EXAMPLE 6

$$44.1 \div 2.45 \rightarrow$$

$$4410 \div 245$$

$$\begin{array}{r} 18 \\ 245 \overline{) 4410} \\ \underline{-245} \\ 1960 \\ \underline{-1960} \\ 0 \end{array}$$

18

APPLICATIONS

1. A tower of blocks is 18.2 inches tall. If each block is 0.7 inches tall, how many blocks are there?

$$\frac{18.2}{0.7} \rightarrow \frac{182}{7}$$

$$\begin{array}{r} 26 \\ 7 \overline{) 182} \\ \underline{-14} \\ 42 \\ \underline{-42} \\ 0 \end{array}$$

26 blocks

2. Nick used 15.5 gallons of gas to drive 334.8 miles. On average, how many miles did he drive per gallon of gas?

$$\frac{334.8}{15.5} \rightarrow \frac{3348}{155}$$

$$\begin{array}{r} 21.6 \\ 155 \overline{) 3348} \\ \underline{310} \\ 248 \\ \underline{-230} \\ 180 \\ \underline{-155} \\ 25 \end{array}$$

21.6 mi

3. Jelly beans cost \$6.45 per pound. If Marcus spent \$7.74 on jelly beans, how many pounds did he buy?

$$\frac{7.74}{6.45} \rightarrow \frac{774}{645}$$

$$\begin{array}{r} 1.2 \\ 645 \overline{) 774} \\ \underline{-645} \\ 290 \\ \underline{-290} \\ 0 \end{array}$$

1.2 lb

4. A section of highway is 0.80 miles long. If Nick drives 50 miles on this section of the highway, how many times can he drive on this section of the highway?

$$\frac{50}{0.80} \rightarrow \frac{500}{8}$$

$$\begin{array}{r} 62.5 \\ 8 \overline{) 500.0} \\ \underline{-48} \\ 20 \\ \underline{-16} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

62.5 times

5. Trina is cutting ribbon to make bows. If she has 7.5 yards of ribbon and she needs 0.4 yards for each bow, how many bows can she make?

$$\frac{7.5}{0.4} \rightarrow \frac{75}{4}$$

$$\begin{array}{r} 18.75 \\ 4 \overline{) 75.00} \\ \underline{-4} \\ 35 \\ \underline{-32} \\ 30 \\ \underline{-28} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

18 bows

6. If a quarter is 0.07 inches tall, what is the minimum number of quarters needed to make a stack that is at least 2 inches tall?

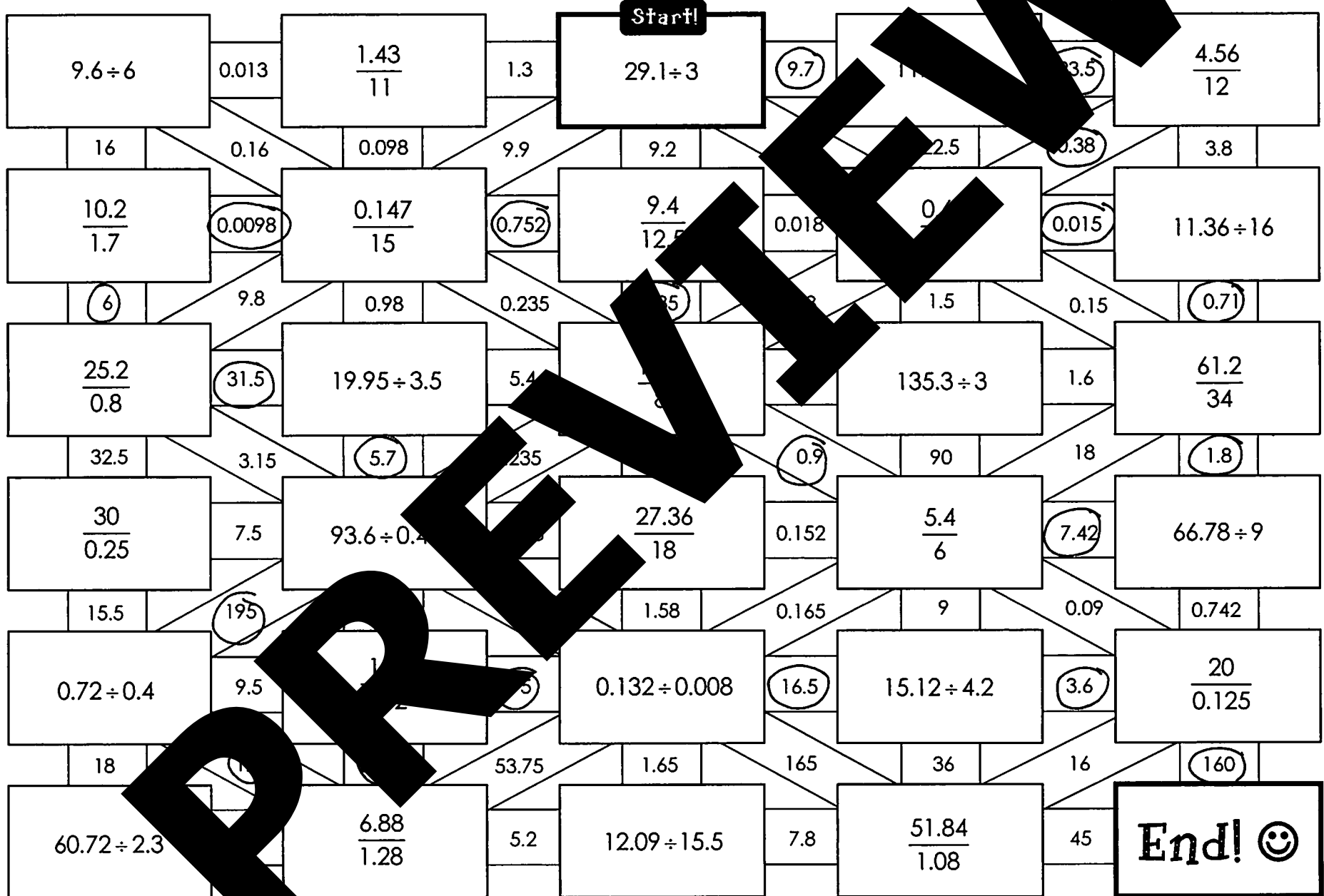
$$\frac{2}{0.07} \rightarrow \frac{200}{7}$$

$$\begin{array}{r} 28.5 \\ 7 \overline{) 200.0} \\ \underline{-14} \\ 60 \\ \underline{-56} \\ 40 \\ \underline{-35} \\ 5 \end{array}$$

29 quarters

Dividing Decimals Maze!

Directions: Find each quotient. Use your solutions to navigate through the maze.
SHOW ALL WORK on a separate sheet of paper and attach it to this maze.



Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 11: Dividing Decimals

**** This is a 2-page document! ******Directions:** Find each quotient.

1. $26.6 \div 7$

$$\begin{array}{r} 3.8 \\ 7 \overline{) 26.6} \\ \underline{-21} \\ 56 \\ \underline{-56} \\ 0 \end{array}$$

3.8

2. $\frac{13.2}{8}$

$$\begin{array}{r} 1.65 \\ 8 \overline{) 13.20} \\ \underline{-8} \\ 52 \\ \underline{-48} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

1.65

3. $\frac{49.28}{4}$

$$\begin{array}{r} 12.32 \\ 4 \overline{) 49.28} \\ \underline{-4} \\ 09 \\ \underline{-8} \\ 12 \\ \underline{-12} \\ 08 \\ \underline{-8} \\ 0 \end{array}$$

12.32

4. $\frac{15}{15}$

$$\begin{array}{r} 1.008 \\ 15 \overline{) 15.000} \\ \underline{-15} \\ 00 \\ \underline{-0} \\ 00 \\ \underline{-0} \\ 00 \\ \underline{-0} \\ 0 \end{array}$$

0.008

5. $32.4 \div 4.5 \rightarrow 324 \div 45$

$$\begin{array}{r} 7.2 \\ 45 \overline{) 324.0} \\ \underline{-315} \\ 90 \\ \underline{-90} \\ 0 \end{array}$$

7.2

6. $18.2 \div 1.75 \rightarrow 1820 \div 175$

$$\begin{array}{r} 10.4 \\ 175 \overline{) 1820.0} \\ \underline{-175} \\ 70 \\ \underline{-70} \\ 00 \\ \underline{-00} \\ 0 \end{array}$$

10.4

25.13

$$\begin{array}{r} 2513 \\ 718 \overline{) 2513} \\ \underline{-2513} \\ 0 \end{array}$$

$$\begin{array}{r} 3.5 \\ 718 \overline{) 2513.0} \\ \underline{2154} \\ 3590 \\ \underline{-3590} \\ 0 \end{array}$$

3.5

8. $5.166 \div 6.3 \rightarrow 51.66 \div 63$

$$\begin{array}{r} 0.82 \\ 63 \overline{) 51.66} \\ \underline{-51} \\ 66 \\ \underline{-63} \\ 36 \\ \underline{-36} \\ 0 \end{array}$$

0.82

$$9. \frac{28.9}{4.25} \rightarrow \frac{2890}{425}$$

$$\begin{array}{r} 6.8 \\ 425 \overline{) 2890.0} \\ \underline{-2550} \\ 3400 \\ \underline{-3400} \\ 0 \end{array}$$

6.8

$$10. \frac{81}{0.72} \rightarrow \frac{8100}{72}$$

$$\begin{array}{r} 112.5 \\ 72 \overline{) 8100.0} \\ \underline{-72} \\ 90 \\ \underline{-72} \\ 180 \\ \underline{-144} \\ 360 \\ \underline{-360} \\ 0 \end{array}$$

112.5

11. Nine packs of crayons cost \$21.51. Find the cost of each pack of crayons.

$$\frac{21.51}{9}$$

$$\begin{array}{r} 2.39 \\ 9 \overline{) 21.51} \\ \underline{-18} \\ 35 \\ \underline{-27} \\ 81 \\ \underline{-81} \\ 0 \end{array}$$

2.39

12. Sound travels approximately 1 mile per minute. How many minutes will it take for a sound to travel 85 miles away? If it strikes 85 miles away?

$$\begin{array}{r} 85 \rightarrow \frac{85}{12.5} \rightarrow \frac{8500}{125} \\ \begin{array}{r} 6.9 \\ 125 \overline{) 850.0} \\ \underline{-738} \\ 1120 \\ \underline{-1107} \\ 13 \end{array} \end{array}$$

7 minutes

13. It took Elijah 2.4 hours to run 13.8 miles. How many miles did he run each hour if he maintained a constant speed?

$$\frac{13.8}{2.4} \rightarrow \frac{138}{24}$$

$$\begin{array}{r} 5.75 \\ 24 \overline{) 138.00} \\ \underline{-120} \\ 180 \\ \underline{-168} \\ 120 \\ \underline{-120} \\ 0 \end{array}$$

5.75 miles

14. At the end of a night, there was \$48.60 in the tip jar at the coffee shop. If there are five employees and they split the tips equally, how much money will each employee get?

$$\frac{48.60}{5}$$

$$\begin{array}{r} 9.72 \\ 5 \overline{) 48.60} \\ \underline{-45} \\ 36 \\ \underline{-35} \\ 10 \\ \underline{-10} \\ 0 \end{array}$$

\$9.72

15. How many stamps can Michaela purchase with \$3000 if each stamp costs \$0.28?

$$\frac{3000}{0.28} \rightarrow \frac{300000}{28}$$

$$\begin{array}{r} 107.1 \\ 28 \overline{) 3000.0} \\ \underline{-28} \\ 20 \\ \underline{-0} \\ 200 \\ \underline{-196} \\ 40 \\ \underline{-28} \\ 12 \end{array}$$

107 stamps

16. It cost \$13.40 for 4.5 pounds of chicken. How much did it cost per pound? Round your answer to the nearest cent.

$$\frac{13.40}{4.5} \rightarrow \frac{134.0}{45}$$

$$\begin{array}{r} 2.977 \\ 45 \overline{) 134.000} \\ \underline{-90} \\ 440 \\ \underline{-405} \\ 350 \\ \underline{-315} \\ 350 \\ \underline{-315} \\ 35 \end{array}$$

\$2.98

DECIMAL OPERATIONS

ADDING & SUBTRACTING DECIMALS

1. $13.96 + 4.025$

$$\begin{array}{r} 13.960 \\ + 4.025 \\ \hline 17.985 \end{array}$$

17.985

2. $120 - 34.82$

$$\begin{array}{r} 120.00 \\ - 34.82 \\ \hline 85.18 \end{array}$$

85.18

3. $47.58 + 121.7$

$$\begin{array}{r} 47.58 \\ + 121.70 \\ \hline 169.28 \end{array}$$

169.28

MULTIPLYING DECIMALS

4. 17.6×9.8

$$\begin{array}{r} 17.6 \\ \times 9.8 \\ \hline 1408 \\ 15840 \\ \hline 17248 \end{array}$$

172.48

5. $18.23(0.64)$

$$\begin{array}{r} 18.23 \\ \times 0.64 \\ \hline 7292 \\ 109380 \\ \hline 11.6672 \end{array}$$

11.6672

6. 1.7×1.35

$$\begin{array}{r} 1.70 \\ \times 1.35 \\ \hline 850 \\ 5100 \\ \hline 2.295 \end{array}$$

2.295

DIVIDING DECIMALS

7. $142.2 \div 6$

$$\begin{array}{r} 23.7 \\ 6 \overline{)142.2} \\ \underline{-12} \\ 22 \\ \underline{-18} \\ 40 \\ \underline{-42} \\ 0 \end{array}$$

23.7

8. $10.18 \div 4$

$$\begin{array}{r} 2.545 \\ 4 \overline{)10.180} \\ \underline{-8} \\ 21 \\ \underline{-20} \\ 10 \\ \underline{-8} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

2.545

9. $\frac{27}{2.5}$

$$\begin{array}{r} 10.8 \\ 25 \overline{)270.0} \\ \underline{-25} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

10.8

10. $28 \overline{)504}$

$$\begin{array}{r} 18 \\ 28 \overline{)504} \\ \underline{-28} \\ 224 \\ \underline{-224} \\ 0 \end{array}$$

18

11. $\frac{18.72}{1.6}$

$$\begin{array}{r} 11.7 \\ 16 \overline{)187.2} \\ \underline{-16} \\ 27 \\ \underline{-16} \\ 112 \\ \underline{-112} \\ 0 \end{array}$$

11.7

12. $1.35 \div 0.003$

$$\begin{array}{r} 450 \\ 3 \overline{)1350} \\ \underline{-12} \\ 15 \\ \underline{-15} \\ 00 \\ \underline{-0} \\ 0 \end{array}$$

450

MIXED OPERATIONS

13. $18.1 - 16 \times 0.28$

$$\begin{array}{r} 16 \\ \times 28 \\ \hline 128 \\ 320 \\ \hline 448 \end{array}$$

$$\begin{array}{r} 7 \text{ } 10 \text{ } 10 \\ 18.10 \\ - 4.48 \\ \hline 13.62 \end{array}$$

13.62

14. $5.65 \div 0.2 + 3.075$

$$\begin{array}{r} 28.25 \\ 2 \overline{) 56.50} \\ \underline{-4} \\ 16 \\ \underline{-16} \\ 05 \\ \underline{-4} \\ 10 \\ \underline{-10} \\ 0 \end{array}$$

$$\begin{array}{r} 28.250 \\ + 3.075 \\ \hline 31.325 \end{array}$$

31.325

15. $17.2(3 - 2.58)$

$$\begin{array}{r} 3.9 \text{ } 10 \\ 3.80 \\ - 2.58 \\ \hline .42 \end{array}$$

$$\begin{array}{r} 17.2 \\ \times .42 \\ \hline 344 \\ 688 \\ \hline 7.224 \end{array}$$

7.224

APPLICATIONS

16. During a hot dog eating contest, Alan ate 23.9 hot dogs in 5 minutes. How many hot dogs did he average each minute?

$$\begin{array}{r} 4.78 \\ 5 \overline{) 23.90} \\ \underline{-20} \\ 39 \\ \underline{-35} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

hot dogs

17. The dinner for a large group was \$125.96. If the waiter added a tip in the amount of \$19 to the bill, how much will the group pay in total?

$$\begin{array}{r} 125.96 \\ + 19.00 \\ \hline 144.96 \end{array}$$

\$151.15

18. There are 14.2 gallons of water in a fish tank. If 3.518 gallons are drawn out, how much water is left in the tank?

$$\begin{array}{r} 3 \text{ } 11 \text{ } 9 \text{ } 10 \\ 14.200 \\ - 3.518 \\ \hline 10.682 \end{array}$$

10.682 gallons

19. A cab driver charges \$2.19 per mile driven. How much will the driver charge for an 8.3-mile ride? Round to the nearest cent.

$$\begin{array}{r} 2.19 \\ \times 8.3 \\ \hline 657 \\ 17520 \\ \hline 18.177 \end{array}$$

\$18.18

20. Sasha deposited money in her daughter's school lunch account. If each lunch costs \$2.60, how many lunches can her daughter buy?

$$\begin{array}{r} 28.8 \\ 2 \overline{) 7500.0} \\ \underline{-520} \\ 2300 \\ \underline{-2080} \\ 2200 \\ \underline{-2080} \\ 120 \end{array}$$

28 lunches

21. Each step on a stairway is 7.2 inches tall. If there are 18 steps, find the total height.

$$\begin{array}{r} 18 \\ \times 7.2 \\ \hline 36 \\ 1260 \\ \hline 129.6 \end{array}$$

129.6 in

APPLICATIONS WITH DECIMAL OPERATIONS

Review Puzzle!

Directions: Solve each problem. Use the arrows to guide you through the page. Use the answer to the previous problem to fill in the blank in the next problem. Work through the page until you reach the end.

START! 1 Alex watched two movies. Movie A was 81.95 minutes long and Movie B was 120.2 minutes long. How many minutes longer was Movie B and Movie A? <u>38.25 min</u>	2 Chicken costs \$8.50 per pound at the grocery store. If Chloe bought <u>4.5 lb</u> of chicken, how many pounds did she buy? <u>4.5 lb</u>	3 A car is traveling at 12.2 meters per second. How many meters will the car travel in <u>4.5</u> seconds? <u>54.9 m</u>
6 Rick's credit card balance is \$ <u>108.42</u>. If he is credited \$68.18 for a refund, then charges \$27.86 for his lunch, find his new balance. <u>\$68.10</u>	5 Lora caught 7 fish, one weighed <u>30.5</u> ounces and the other weighed 77 ounces. What is the combined weight? <u>108.42 oz.</u>	4 Amara has two dogs, Max and Sam. Max weighs 1.8 times more than Sam. If Max weighs <u>54.9</u> pounds, how much does Sam weigh? <u>30.5 lb</u>
7 Manny spent \$ <u>68.10</u> filling up his gas tank. If it cost \$2.50 per gallon of gas, how many gallons did he purchase? <u>27.24</u>	8 A package weighs <u>27.24</u> ounces. How much will it cost to mail the package if it costs \$0.05 per ounce? <u>\$1.36</u>	9 Mr. Rizzo has \$85 to buy notebooks for his science students. If they cost \$ <u>1.36</u> each, how many can he purchase? <u>62 notebooks</u>
12 Dane bought <u>13</u> pounds of beef for \$0.14 each and <u>13</u> pounds of chicken for \$2.65 each. How much did he spend in total? <u>\$18.24</u>	11 If <u>48.32</u> pounds of sand is poured into buckets, and each bucket can hold no more than 4 pounds, what is the minimum number of buckets needed? <u>13 buckets</u>	10 There were <u>62</u> ounces of dish soap in a bottle. If 13.68 ounces are poured out, how much soap is left in the bottle? <u>48.32 oz</u>

END!

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 12: All Decimal Operations

**** This is a 2-page document! ******Directions:** Find each sum, difference, product, or quotient.

1. $141.2 - 79.83$

$$\begin{array}{r} 141.20 \\ - 79.83 \\ \hline 61.37 \end{array}$$

61.37

2. $38.125 + 17.9$

$$\begin{array}{r} 38.125 \\ + 17.900 \\ \hline 56.025 \end{array}$$

56.025

3. $136.842 + 91$

$$\begin{array}{r} 136.842 \\ + 91.000 \\ \hline 227.842 \end{array}$$

227.842

4. 48×0.35

$$\begin{array}{r} 48 \\ \times 0.35 \\ \hline 240 \\ 1440 \\ \hline 16.80 \end{array}$$

16.8

5. $22.4(6.12)$

$$\begin{array}{r} 22.4 \\ \times 6.12 \\ \hline 448 \\ 1344 \\ 13440 \\ \hline 137.688 \end{array}$$

137.688

6. $36(0.0067)$

$$\begin{array}{r} 36 \\ \times 0.0067 \\ \hline 24180 \end{array}$$

0.2418

7. $11.68 \div 4$

$$\begin{array}{r} 2.92 \\ 4 \overline{) 11.68} \\ \underline{8} \\ 36 \\ \underline{32} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

2.92

$$\begin{array}{r} 0.105 \\ 12 \overline{) 1.260} \\ \underline{12} \\ 06 \\ \underline{00} \\ 60 \\ \underline{60} \\ 0 \end{array}$$

0.105

9. $9.8 \div 3.5$

$$\begin{array}{r} 2.8 \\ 35 \overline{) 98.0} \\ \underline{70} \\ 280 \\ \underline{280} \\ 0 \end{array}$$

2.8

$$\begin{array}{r} 0.8 \\ 0.8 \overline{) 6.4} \\ \underline{6.4} \\ 0 \end{array}$$

2.9

$$\begin{array}{r} 2.9 \\ 8.7 \overline{) 25.13} \\ \underline{174} \\ 773 \\ \underline{773} \\ 0 \end{array}$$

11. $5.8 \div 0.08$

$$\begin{array}{r} 72.5 \\ 8 \overline{) 580.0} \\ \underline{56} \\ 20 \\ \underline{16} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

72.5

12. $\frac{54}{12.5}$

$$\begin{array}{r} 4.32 \\ 125 \overline{) 540.00} \\ \underline{500} \\ 400 \\ \underline{375} \\ 250 \\ \underline{250} \\ 0 \end{array}$$

4.32

13. $44.1 \div 3 \times 0.75$

$$\begin{array}{r} 14.7 \\ 3 \overline{)44.1} \\ \underline{-3} \\ 14 \\ \underline{-12} \\ 21 \\ \underline{-21} \\ 0 \end{array}$$

$$\begin{array}{r} 14.7 \\ \times 0.75 \\ \hline 735 \\ 10290 \\ \hline 11025 \end{array}$$

11.025

14. $(0.98 + 15.1) \div 0.4$

$$\begin{array}{r} 0.98 \\ +15.10 \\ \hline 16.08 \end{array}$$

$$\begin{array}{r} 40.2 \\ 4 \overline{)160.8} \\ \underline{-16} \\ 00 \\ \underline{-0} \\ 08 \end{array}$$

40.2

15. Eric earns \$8.30 per hour at work. If he worked 16.85 hours this past week, how much will he earn? Round to the nearest cent.

$$\begin{array}{r} 16.85 \\ \times 8.30 \\ \hline 0000 \\ 50550 \\ 1348000 \\ \hline 139.8550 \end{array}$$

\$139.86

16. Jess bought 4 yards of fabric for \$24.96. How much did she pay per yard?

$$\begin{array}{r} 6.24 \\ 4 \overline{)24.96} \\ \underline{-24} \\ 096 \\ \underline{-96} \\ 0 \end{array}$$

\$7.80

17. A gauge on Sam's car indicates that he has 178.8 miles left until his gas tank is empty. If he drives 60.25 miles to visit his mother, then 83.9 miles to visit his friend, how many miles does he have left?

$$\begin{array}{r} 178.80 \\ - 60.25 \\ \hline 118.55 \end{array}$$

34.65 miles

18. Mia likes to practice her multiplication facts. She can correctly answer one problem every 0.048 minutes, how many problems can she correctly answer in 3 minutes?

$$\begin{array}{r} 62.5 \\ 48 \overline{)3000.0} \\ \underline{-288} \\ 120 \\ \underline{-96} \\ 240 \\ \underline{-240} \\ 0 \end{array}$$

62

19. Three people are sharing the cost to rent a boat. The total cost is \$194.20, how much will each person pay? Round to the nearest cent.

$$\begin{array}{r} 32.366 \\ 6 \overline{)194.200} \\ \underline{-18} \\ 14 \\ \underline{-12} \\ 22 \\ \underline{-18} \\ 40 \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 4 \end{array}$$

\$32.37

20. Vance ran 5.4 miles on Saturday. If he ran 1.2 times further on Sunday than he did on Saturday, find the total distance he ran on both days combined.

$$\begin{array}{r} 5.4 \\ \times 1.2 \\ \hline 108 \\ 540 \\ \hline 6.48 \end{array}$$

$$\begin{array}{r} 6.48 \\ +5.4 \\ \hline 11.88 \end{array}$$

11.88 miles

Name: _____

Math 6

Date: _____ Per: _____

Unit 3: Rational Numbers

Quiz 3-3: All Decimal Operations & Applications

Evaluate each expression.

1. $4.82 + 16.917$

$$\begin{array}{r} 4.820 \\ + 16.917 \\ \hline 21.737 \end{array}$$

2. $150 - 138.79 + 21.6$

$$\begin{array}{r} 150.00 \\ - 138.79 \\ \hline 11.21 \end{array}$$

$$\begin{array}{r} 11.21 \\ + 21.60 \\ \hline 32.81 \end{array}$$

3. 16.3×7.6

$$\begin{array}{r} 16.3 \\ \times 7.6 \\ \hline 978 \\ 11410 \\ \hline 123.88 \end{array}$$

4. 0.192×40

$$\begin{array}{r} .192 \\ \times 40 \\ \hline 7.68 \end{array}$$

5. $62.14(0.85)$

$$\begin{array}{r} 62.14 \\ \times 0.85 \\ \hline 31070 \\ 497120 \\ \hline 52.8190 \end{array}$$

6. $7.68 \div 3$

$$\begin{array}{r} 2.56 \\ 3 \overline{) 7.68} \\ \underline{-6} \\ 19 \\ \underline{-18} \\ 120 \\ \underline{-120} \\ 0 \end{array}$$

7. $20 \div 3.2$

$$\begin{array}{r} 6.25 \\ 3.2 \overline{) 20.00} \\ \underline{-19.2} \\ 80 \\ \underline{-64} \\ 160 \\ \underline{-160} \\ 0 \end{array}$$

8. $1.53 \div 0.09$

$$\begin{array}{r} 17 \\ 9 \overline{) 153} \\ \underline{-9} \\ 63 \\ \underline{-63} \\ 0 \end{array}$$

9. $106.8 \div 12$

$$\begin{array}{r} 8.9 \\ 12 \overline{) 106.8} \\ \underline{-12} \\ 08 \\ \underline{-0} \\ 81 \\ \underline{-72} \\ 96 \\ \underline{-96} \\ 0 \end{array}$$

10. $11.8 + 20.68 \div 8$

$$\begin{array}{r} 2.585 \\ 8 \overline{) 20.680} \\ \underline{-16} \\ 46 \\ \underline{-40} \\ 68 \\ \underline{-64} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

$$\begin{array}{r} 11.800 \\ + 2.585 \\ \hline 14.385 \end{array}$$

Directions: Read each problem carefully and solve.

11. An elevator is currently 16.9 feet off the ground. If it ascends 32.35 feet, then descends 7.8 feet, how far off the ground is the elevator?

$$\begin{array}{r} 16.90 \\ + 32.35 \\ \hline 49.25 \end{array}$$

$$\begin{array}{r} 49.25 \\ - 7.80 \\ \hline 41.45 \end{array}$$

11. 41.45 feet

12. \$17.65

13. 38.07 miles

12. Beth is buying 2.6 pounds of coffee beans. If the coffee costs \$6.79 per pound, how much will she pay? Round to the nearest cent.

$$\begin{array}{r} 6.79 \\ \times 2.6 \\ \hline 4074 \\ 13580 \\ \hline 17.654 \end{array}$$

15. 38.07 miles

13. A jug contains 74.1 ounces of fruit punch. The punch is distributed to six people, how many ounces will each person get?

$$\begin{array}{r} 12.35 \\ \times 6 \\ \hline 74.10 \\ \hline 74.10 \end{array}$$

14. Josh ran 84.6 miles in July. In June, he ran 0.55 times this distance due to an injury. How many miles did he run in June than in July?

$$\begin{array}{r} 84.6 \\ \times 0.55 \\ \hline 42.30 \\ 42.30 \\ \hline 46.53 \end{array}$$

$$\begin{array}{r} 84.60 \\ - 46.53 \\ \hline 38.07 \end{array}$$

15. A man has 65.8 meters of wire. If he is cutting the wire into pieces that are 1.6 meters long, how many pieces can he cut?

$$\begin{array}{r} 41.1 \\ 16 \overline{) 658.0} \\ \underline{-64} \\ 18 \\ \underline{-16} \\ 20 \\ \underline{-16} \\ 4 \end{array}$$

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples									
RATIONAL NUMBER	Recall that any number that can be written as a fraction is called a rational number . Therefore, any decimal that can be written as a fraction is also a rational number.									
Writing DECIMALS as FRACTIONS	To write a decimal as a fraction: ➤ READ IT (to determine place value) ➤ WRITE IT (using the place value as the denominator) ➤ REDUCE IT (simplify if possible) Write each decimal as a fraction or mixed number in simplest form. <table><tr><td>1. 0.8 $\frac{8}{10} = \boxed{\frac{4}{5}}$</td><td>2. 1.2 $1\frac{2}{10} = \boxed{1\frac{1}{5}}$</td><td>3. 0.12 $\frac{12}{100} = \boxed{\frac{3}{25}}$</td></tr><tr><td>4. 9.75 $9\frac{75}{100} = \boxed{9\frac{3}{4}}$</td><td>5. 2.05 $2\frac{5}{100} = \boxed{2\frac{1}{20}}$</td><td>6. 0.375 $\frac{375}{1000} = \boxed{\frac{3}{8}}$</td></tr><tr><td>7. 16.7 $16\frac{7}{10}$</td><td>8. 4.33 $4\frac{33}{100}$</td><td>9. 5.225 $5\frac{225}{1000} = \boxed{5\frac{9}{40}}$</td></tr></table>	1. 0.8 $\frac{8}{10} = \boxed{\frac{4}{5}}$	2. 1.2 $1\frac{2}{10} = \boxed{1\frac{1}{5}}$	3. 0.12 $\frac{12}{100} = \boxed{\frac{3}{25}}$	4. 9.75 $9\frac{75}{100} = \boxed{9\frac{3}{4}}$	5. 2.05 $2\frac{5}{100} = \boxed{2\frac{1}{20}}$	6. 0.375 $\frac{375}{1000} = \boxed{\frac{3}{8}}$	7. 16.7 $16\frac{7}{10}$	8. 4.33 $4\frac{33}{100}$	9. 5.225 $5\frac{225}{1000} = \boxed{5\frac{9}{40}}$
1. 0.8 $\frac{8}{10} = \boxed{\frac{4}{5}}$	2. 1.2 $1\frac{2}{10} = \boxed{1\frac{1}{5}}$	3. 0.12 $\frac{12}{100} = \boxed{\frac{3}{25}}$								
4. 9.75 $9\frac{75}{100} = \boxed{9\frac{3}{4}}$	5. 2.05 $2\frac{5}{100} = \boxed{2\frac{1}{20}}$	6. 0.375 $\frac{375}{1000} = \boxed{\frac{3}{8}}$								
7. 16.7 $16\frac{7}{10}$	8. 4.33 $4\frac{33}{100}$	9. 5.225 $5\frac{225}{1000} = \boxed{5\frac{9}{40}}$								
Writing FRACTIONS as DECIMALS	Case 1: THE DENOMINATOR IS 10, 100, 1000, ETC. A fraction can be written as a decimal using the place value. <table><tr><td>10. $\frac{7}{10}$ 0.7</td><td>11. $11\frac{39}{100}$ 11.39</td><td>12. $4\frac{9}{1000}$ 4.009</td></tr></table> Case 2: ANY OTHER DENOMINATOR Divide the numerator by the denominator. <table><tr><td>13. $\frac{7}{8}$ $\begin{array}{r} 8 \overline{) 7.000} \\ \underline{-64} \\ 60 \\ \underline{-56} \\ 40 \\ \underline{-40} \\ 0 \end{array}$ $\boxed{0.875}$</td><td>14. $5\frac{3}{4}$ $\begin{array}{r} 4 \overline{) 3.00} \\ \underline{-28} \\ 20 \\ \underline{-20} \\ 0 \end{array}$ $\boxed{5.75}$</td><td>15. $\frac{11}{5}$ $\begin{array}{r} 5 \overline{) 11.0} \\ \underline{-10} \\ 10 \\ \underline{-10} \\ 0 \end{array}$ $\boxed{2.2}$</td></tr></table>	10. $\frac{7}{10}$ 0.7	11. $11\frac{39}{100}$ 11.39	12. $4\frac{9}{1000}$ 4.009	13. $\frac{7}{8}$ $\begin{array}{r} 8 \overline{) 7.000} \\ \underline{-64} \\ 60 \\ \underline{-56} \\ 40 \\ \underline{-40} \\ 0 \end{array}$ $\boxed{0.875}$	14. $5\frac{3}{4}$ $\begin{array}{r} 4 \overline{) 3.00} \\ \underline{-28} \\ 20 \\ \underline{-20} \\ 0 \end{array}$ $\boxed{5.75}$	15. $\frac{11}{5}$ $\begin{array}{r} 5 \overline{) 11.0} \\ \underline{-10} \\ 10 \\ \underline{-10} \\ 0 \end{array}$ $\boxed{2.2}$			
10. $\frac{7}{10}$ 0.7	11. $11\frac{39}{100}$ 11.39	12. $4\frac{9}{1000}$ 4.009								
13. $\frac{7}{8}$ $\begin{array}{r} 8 \overline{) 7.000} \\ \underline{-64} \\ 60 \\ \underline{-56} \\ 40 \\ \underline{-40} \\ 0 \end{array}$ $\boxed{0.875}$	14. $5\frac{3}{4}$ $\begin{array}{r} 4 \overline{) 3.00} \\ \underline{-28} \\ 20 \\ \underline{-20} \\ 0 \end{array}$ $\boxed{5.75}$	15. $\frac{11}{5}$ $\begin{array}{r} 5 \overline{) 11.0} \\ \underline{-10} \\ 10 \\ \underline{-10} \\ 0 \end{array}$ $\boxed{2.2}$								

Name:

Date:

Topic:

Class:

Main Ideas/Questions

Notes/Examples

Comparing FRACTIONS & DECIMALS

- One way to compare fractions and decimals is to convert them to decimals and compare using place value.

- **Example:** Elena and Rory each ordered a pizza. Elena ate $\frac{11}{15}$ of her pizza and Rory ate 0.78 of his pizza. Who ate a larger portion of their pizza?

$$\begin{array}{r} .733 \\ 15 \overline{) 11.000} \\ \underline{-105} \\ 50 \\ \underline{-45} \\ 50 \\ \underline{-45} \\ 5 \end{array}$$

$$\begin{array}{l} \text{Elena} = 0.\overline{73} \\ \text{Rory} = 0.78 \end{array}$$

Rory ate more pizza.

Compare the numbers by placing the correct symbol in the circle.

$$1. 0.62 \quad \left(< \right) \quad \frac{5}{8}$$

$$\begin{array}{r} .625 \\ 8 \overline{) 5.000} \\ \underline{-48} \\ 20 \\ \underline{-16} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

$$2. \frac{1}{6} \quad \left(> \right) \quad 2.\overline{16}$$

$$\begin{array}{r} .166 \\ 6 \overline{) 1.000} \\ \underline{-6} \\ 40 \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 4 \end{array}$$

$$3. 1\frac{7}{9} \quad \left(> \right) \quad 1.\overline{7}$$

$$\begin{array}{r} .777 \\ 9 \overline{) 7.000} \\ \underline{-63} \\ 70 \\ \underline{-63} \\ 70 \\ \underline{-63} \\ 7 \end{array}$$

$$4. 0.0\overline{68} \quad \left(< \right) \quad \frac{5}{12}$$

$$\begin{array}{r} .4166 \\ 12 \overline{) 5.0000} \\ \underline{-48} \\ 20 \\ \underline{-12} \\ 80 \\ \underline{-72} \\ 80 \\ \underline{-72} \\ 8 \end{array}$$

$$5. 7\frac{1}{5} \quad \left(< \right) \quad 7.\overline{2}$$

$$\begin{array}{r} .2 \\ 5 \overline{) 1.0} \\ \underline{-10} \\ 0 \end{array}$$

$$6. \frac{17}{7} \quad \left(< \right) \quad 2.\overline{45}$$

$$\begin{array}{r} 2.428 \\ 7 \overline{) 17.000} \\ \underline{-14} \\ 30 \\ \underline{-28} \\ 20 \\ \underline{-14} \\ 60 \\ \underline{-56} \\ 4 \end{array}$$

Ordering FRACTIONS & DECIMALS

7. During a snowstorm, Buffalo got $2\frac{7}{16}$ feet of snow and Rochester got 2.319 feet of snow. Which city got more snow?

$$\begin{array}{r} .4375 \\ 16 \overline{) 7.0000} \\ \underline{-64} \\ 60 \\ \underline{-48} \\ 120 \\ \underline{-112} \\ 80 \\ \underline{-80} \\ 0 \end{array}$$

Buffalo

8. In the past year, Aidan grew 1.68 inches and Greg grew $1\frac{2}{3}$ inches. Who grew the most?

$$\begin{array}{r} .666 \\ 3 \overline{) 2.000} \\ \underline{-18} \\ 20 \\ \underline{-18} \\ 20 \\ \underline{-18} \\ 2 \end{array}$$

9. Order from least to greatest: $\frac{4}{9}, 0.4, \frac{4}{10}$

$$\begin{array}{r} .444 \\ 9 \overline{) 4.000} \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 4 \end{array}$$

$$\begin{array}{r} .500 \\ 10 \overline{) 5.000} \\ \underline{-50} \\ 0 \\ 0 \\ 0 \end{array}$$

$\frac{5}{14}, 0.4, \frac{4}{9}$

10. Order from least to greatest: 1.82, 1.095, $1\frac{4}{5}$

$$\begin{array}{r} 1.820 \\ 11 \overline{) 20.000} \\ \underline{-22} \\ 88 \\ \underline{-88} \\ 0 \end{array}$$

$$\begin{array}{r} .800 \\ 10 \overline{) 8.000} \\ \underline{-80} \\ 0 \\ 0 \end{array}$$

1.095, $1\frac{4}{5}$, 1.82

11. Order from least to greatest: $\frac{8}{25}, 0.095, 0.\bar{3}, \frac{3}{10}$

$$\begin{array}{r} .320 \\ 25 \overline{) 8.000} \\ \underline{-50} \\ 30 \\ \underline{-25} \\ 50 \\ \underline{-50} \\ 0 \end{array}$$

$$\begin{array}{r} .300 \\ 10 \overline{) 3.000} \\ \underline{-30} \\ 0 \\ 0 \end{array}$$

$0.\bar{3}, \frac{8}{25}, \frac{3}{10}, 0.095$

12. Jared, Kyra, and Rigel shot hoops for two rounds. The table to the left shows the fraction of the shots they made. Which student(s) shot a better second round than the first round?

	Round 1	Round 2
Jared	$\frac{3}{4}$	$\frac{1}{3}$
Kyra	0.375	$\frac{2}{5}$
Rigel	0.31	$\frac{4}{13}$

$$\begin{array}{r} .333 \rightarrow 0.\bar{3} \\ 3 \overline{) 1.000} \\ \underline{-9} \\ 10 \\ \underline{-9} \\ 1 \end{array}$$

$$\begin{array}{r} .400 \\ 5 \overline{) 2.000} \\ \underline{-20} \\ 0 \\ 0 \end{array}$$

$$\begin{array}{r} .307 \\ 13 \overline{) 4.000} \\ \underline{-39} \\ 10 \\ \underline{-10} \\ 0 \\ 0 \end{array}$$

Kyra

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 13: Fractions & Decimals

**** This is a 2-page document! ******Directions:** Write each decimal as a fraction or mixed number in simplest form.

1. 1.4

$$1\frac{4}{10} = \boxed{1\frac{2}{5}}$$

2. 3.25

$$3\frac{25}{100} = \boxed{3\frac{1}{4}}$$

3. 0.62

$$\frac{62}{100} = \boxed{\frac{31}{50}}$$

4. 7.44

$$7\frac{44}{100} = \boxed{7\frac{11}{25}}$$

5. 11.125

$$11\frac{125}{1000} = \boxed{11\frac{1}{8}}$$

6. 2.85

$$2\frac{85}{100} = \boxed{2\frac{17}{20}}$$

Directions: Write each fraction or mixed number as a decimal rounded to the nearest thousandth if necessary.7. $\frac{3}{8}$

$$\begin{array}{r} .375 \\ 8 \overline{) 3.000} \\ \underline{-24} \\ 60 \\ \underline{-56} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

 $\boxed{0.375}$ 8. $3\frac{7}{20}$

$$\begin{array}{r} .350 \\ 20 \overline{) 3.500} \\ \underline{-60} \\ 100 \\ \underline{-100} \\ 0 \end{array}$$

 $\boxed{3.35}$ 9. $2\frac{8}{5}$

$$\begin{array}{r} 2.8 \\ 5 \overline{) 14.0} \\ \underline{-10} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

 $\boxed{2.8}$ 10. $\frac{8}{15}$

$$\begin{array}{r} .533 \\ 15 \overline{) 8.000} \\ \underline{-75} \\ 50 \\ \underline{-45} \\ 50 \\ \underline{-45} \\ 5 \end{array}$$

11. $2\frac{4}{9}$

$$\begin{array}{r} .444 \\ 9 \overline{) 4.000} \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 4 \end{array}$$

 $\boxed{2.\overline{4}}$ 12. $1\frac{11}{12}$

$$\begin{array}{r} .9166 \\ 12 \overline{) 11.0000} \\ \underline{-108} \\ 20 \\ \underline{-12} \\ 80 \\ \underline{-72} \\ 80 \\ \underline{-72} \\ 8 \end{array}$$

 $1.9\overline{16}$ **Compare the numbers by placing a <, >, or = symbol in the circle.** $\frac{1}{3} > \frac{1}{4}$

$$\begin{array}{r} .333 \\ 3 \overline{) 1.000} \\ \underline{-9} \\ 10 \\ \underline{-9} \\ 1 \end{array}$$

14. $3\frac{10}{11} > 3.908$

$$\begin{array}{r} .9090 \\ 11 \overline{) 10.0000} \\ \underline{-99} \\ 10 \\ \underline{-9} \\ 100 \\ \underline{-99} \\ 10 \\ \underline{-9} \\ 10 \\ \underline{-9} \\ 10 \end{array}$$

15. $1\frac{3}{40} < 1.1$

$$\begin{array}{r} .075 \\ 40 \overline{) 3.000} \\ \underline{-0} \\ 300 \\ \underline{-280} \\ 200 \\ \underline{-200} \\ 0 \end{array}$$

16. $2.125 > \frac{19}{9}$

$$\begin{array}{r} 2.111 \\ 9 \overline{) 19.000} \\ \underline{-18} \\ 10 \\ \underline{-9} \\ 10 \\ \underline{-9} \\ 1 \end{array}$$

17. $4.\bar{4} > 4\frac{2}{5}$

$$\begin{array}{r} .4 \\ 5 \overline{) 2.0} \\ \underline{-20} \\ 0 \end{array}$$

18. $1.\bar{31} < \frac{21}{16}$

$$\begin{array}{r} 1.3125 \\ 16 \overline{) 21.0000} \\ \underline{-16} \\ 50 \\ \underline{-48} \\ 20 \\ \underline{-16} \\ 40 \\ \underline{-32} \\ 80 \\ \underline{-80} \\ 0 \end{array}$$

19. Carina and Rylee ran a mile in gym class. It took Carina 7.18 minutes Rylee $7\frac{4}{25}$ minutes to complete. Who ran the quickest?

$$\begin{array}{r} .16 \\ 25 \overline{) 4.00} \\ \underline{-25} \\ 150 \\ \underline{-150} \\ 0 \end{array}$$

Rylee = 7.16 min

Rylee

20. Max has two cats, Rex and Roman. Rex weighs 11.329 pounds and Roman weighs 11.388 pounds. Which cat weighs the most?

$$\begin{array}{r} .388 \\ 11.329 \\ \underline{+ .059} \\ 11.388 \end{array}$$

Rex

21. Order the following numbers from least to greatest.

$1.095, 1.83, 1\frac{6}{7}, 1\frac{13}{15}$

$$\begin{array}{r} .866 \\ 15 \overline{) 13.000} \\ \underline{-120} \\ 100 \\ \underline{-90} \\ 100 \end{array}$$

$$\begin{array}{r} .8511 \\ 7 \overline{) 6.0000} \\ \underline{-56} \\ 40 \\ \underline{-35} \\ 50 \\ \underline{-49} \\ 10 \\ \underline{-7} \\ 3 \end{array}$$

$1.095, 1.83, 1\frac{6}{7}, 1\frac{13}{15}$

22. The table below shows the amount of rainfall, in inches, each month from March through June. Order the months from greatest to least in terms of the amount of rainfall.

Month	Rainfall
March	2.06
April	$2\frac{2}{11}$
May	$2\frac{1}{6}$
June	2.108

$2.\bar{18}$

$2.1\bar{6}$

$$\begin{array}{r} .1818 \\ 11 \overline{) 2.0000} \\ \underline{-11} \\ 90 \\ \underline{-88} \\ 20 \\ \underline{-11} \\ 90 \\ \underline{-88} \\ 2 \end{array}$$

$$\begin{array}{r} .166 \\ 6 \overline{) 1.000} \\ \underline{-6} \\ 40 \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 4 \end{array}$$

April, May, June, March

Name:	Date:
Topic:	Class:

Main Ideas/Questions	Notes/Examples
negative RATIONAL NUMBERS	Rational numbers can also be negative. Write a rational number for each situation.
	1. 25.2 feet below the water level
	2. a $9\frac{2}{3}$ foot gain in elevation
	3. a \$1.60 tax
	4. $2\frac{5}{8}$ degrees below zero
	5. a \$42.95 withdrawal
	6. using $14\frac{3}{5}$ ounces of sugar
	7. a \$18.71 deposit
	8. beating a run record by $3\frac{11}{16}$ seconds
ABSOLUTE VALUE	Recall that absolute value is a number's distance from zero. We use bars around a number when finding its absolute value. Find each absolute value:
	9. $ \frac{2}{7} $ $\frac{2}{7}$ 10. $ \frac{1}{4} $ $\frac{1}{4}$ 11. $ -2\frac{9}{20} $ $2\frac{9}{20}$
	12. $ 4.95 $ 4.95 13. $ -0.703 $.703 14. $ -8.2 $ 8.2
COMPARING	Use the number line to compare the values below.
	15. $-2\frac{1}{4}$ $<$ $-1\frac{1}{2}$
	16. -0.08 $>$ -0.35
	To compare negative rational numbers, write both numbers as:
	• <u>Like Fractions</u> (fractions with the same denominator)
	OR
	• <u>Decimals</u> (to compare place value)
	Think about where the numbers would fall on a number line. The number closer to zero is the larger number.

Compare the numbers by placing a $<$, $>$, or $=$ symbol in the circle.

17. $-\frac{4}{9}$ $\left(< \right)$ $-\frac{1}{9}$

18. $-1\frac{5}{8}$ $\left(> \right)$ $-1\frac{3}{4}$

$-1\frac{5}{8}$ $-1\frac{6}{8}$

19. -2.09 $\left(> \right)$ -2.21

20. -15.8 $\left(< \right)$ -14.1

21. -2.3 $\left(> \right)$ $-2\frac{1}{3}$

22. -1.5 $\left(= \right)$ -1.5

$$\begin{array}{r} .37 \\ 3 \overline{)1.11} \\ \underline{.9} \\ .21 \\ \underline{.21} \\ 0 \end{array}$$

$$\begin{array}{r} .833 \\ 25 \overline{)20.825} \\ \underline{200} \\ .82 \\ \underline{.75} \\ .07 \\ \underline{.00} \\ 0 \end{array}$$

23. -7.4 $\left(< \right)$ $-7\frac{1}{2}$

24. $-3\frac{5}{6}$ $\left(< \right)$ -3.8

$$\begin{array}{r} .833 \\ 4 \overline{)3.332} \\ \underline{3.2} \\ .13 \\ \underline{.12} \\ .01 \\ \underline{.00} \\ 0 \end{array}$$

$$\begin{array}{r} .833 \\ 6 \overline{)5.000} \\ \underline{48} \\ 20 \\ \underline{18} \\ 20 \\ \underline{18} \\ 2 \end{array}$$

Order from least to greatest.

25. $-\frac{1}{6}$, $-\frac{2}{3}$, $-\frac{4}{5}$
 $-\frac{1}{6}$, $-\frac{6}{30}$, $-\frac{4}{30}$

26. -4.2 , $-4\frac{1}{9}$, -4.08

$$\begin{array}{r} .11 \\ 9 \overline{)1.00} \\ \underline{.9} \\ .10 \\ \underline{.9} \\ .1 \end{array}$$

$$\boxed{-\frac{1}{5}, -\frac{1}{6}, -\frac{2}{15}}$$

$$\boxed{-4.2, -4\frac{1}{9}, -4.08}$$

27. $-\frac{3}{7}$, -0.5 , $-1\frac{1}{5}$

28. $-3\frac{2}{5}$, $-3\frac{3}{8}$, -3.04

$$\begin{array}{r} .428 \\ 7 \overline{)3.000} \\ \underline{28} \\ 20 \\ \underline{14} \\ 60 \\ \underline{56} \\ 4 \end{array}$$

$$\begin{array}{r} .2 \\ 5 \overline{)1.0} \\ \underline{1.0} \\ 0 \end{array}$$

$$\boxed{-1\frac{1}{5}, -0.5, -\frac{3}{7}}$$

$$\begin{array}{r} .4 \\ 5 \overline{)2.0} \\ \underline{2.0} \\ 0 \end{array}$$

$$\begin{array}{r} .375 \\ 8 \overline{)3.000} \\ \underline{24} \\ 60 \\ \underline{56} \\ 40 \\ \underline{40} \\ 0 \end{array}$$

$$\boxed{-3\frac{2}{5}, -3\frac{3}{8}, -3.04}$$

Name: _____

Unit 3: Rational Numbers

Date: _____ Per: _____

Homework 14: Negative Rational Numbers

Directions: Find each absolute value.

1. $ 2.675 $ 2.675	2. $ -1\frac{3}{5} $ $1\frac{3}{5}$	3. $ 9\frac{1}{10} $ $9\frac{1}{10}$	4. $ -5.04 $ 5.04
--------------------	-------------------------------------	--------------------------------------	-------------------

Directions: Compare the numbers by placing a $<$, $>$, or $=$ symbol in the circle.

5. $-\frac{2}{15} > -\frac{11}{15}$

6. $-2\frac{2}{3} < -2\frac{5}{9}$
 $-2\frac{6}{9}$

7. $-\frac{19}{20} < -\frac{31}{40}$
 $-\frac{38}{40}$

8. $-0.64 > -0.81$

9. $-7.17 < -7.1\bar{6}$
 $-7.166\ldots$

10. $-9.02 > -10.7$

11. $-4.35 < -4\frac{1}{5}$
 -4.2

12. $-1\frac{1}{5} > -1\frac{3}{5}$
 $-1.2 > -1.6$

13. $-3\frac{7}{8} = -3.875$
 -3.875

14. $-11\frac{1}{9} > -12\frac{1}{3}$
 $-11.111\ldots > -12.333\ldots$

15. $-1\frac{13}{15} < -1\frac{1}{5}$
 $-1.866\ldots < -1.2$

16. $-8\frac{1}{12} < -8.01$
 $-8.083\bar{3} < -8.01$

Directions: Order from least to greatest.

17. $-0.08, -\frac{1}{8}, -\frac{1}{50}$

$-\frac{1}{50} < -\frac{1}{8} < -0.08$

18. $-2\frac{7}{11}, -2\frac{2}{3}, -2\frac{5}{8}$

$-2\frac{2}{3} < -2\frac{7}{11} < -2\frac{5}{8}$

Unit 3 Test Study Guide (Rational Numbers)

Name: _____

Date: _____ Per: _____

Topic 1: Fraction Operations

Directions: Evaluate. Write each answer as a fraction or mixed number in simplest form.

$$1. 1\frac{1}{6} + \frac{3}{4} = \frac{1}{6} + \frac{3}{4}$$

$$= \frac{14}{12} + \frac{9}{12}$$

$$= \frac{23}{12}$$

$$= \boxed{1\frac{11}{12}}$$

$$2. 6\frac{1}{10} - 1\frac{7}{12} = \frac{61}{10} - \frac{19}{12}$$

$$= \frac{366}{60} - \frac{95}{60}$$

$$= \frac{271}{60}$$

$$= \boxed{4\frac{31}{60}}$$

$$3. 3\frac{8}{9} - 1\frac{3}{10} + 5\frac{25}{10} - \frac{1}{10} = \frac{28}{9} - \frac{13}{10} + \frac{52}{10} - \frac{1}{10}$$

$$= \frac{28}{9} + \frac{40}{10} - \frac{1}{10}$$

$$= \frac{28}{9} + \frac{39}{10}$$

$$= \frac{280}{90} + \frac{351}{90} = \frac{631}{90} = \boxed{7\frac{1}{9}}$$

$$4. 2\frac{5}{8} \cdot \frac{4}{15}$$

$$\frac{21}{8} \cdot \frac{4}{15} = \frac{7}{10}$$

$$= \boxed{\frac{7}{10}}$$

$$5. 3\frac{5}{9} \cdot 1\frac{17}{28}$$

$$\frac{32}{9} \cdot \frac{45}{28} = \frac{160}{7}$$

$$= \boxed{22\frac{6}{7}}$$

$$6. 3\frac{3}{5} - 2\frac{1}{15}$$

$$\frac{18}{5} - \frac{14}{15} = \frac{53}{15}$$

$$= \frac{53}{15} - \frac{24}{15} = \frac{29}{15}$$

$$= \boxed{1\frac{14}{15}}$$

$$7. \frac{14}{15} \div \frac{10}{21}$$

$$\frac{14}{15} \cdot \frac{21}{10} = \frac{49}{25}$$

$$= \boxed{1\frac{24}{25}}$$

$$8. 1\frac{13}{15} \div 9\frac{3}{5}$$

$$\frac{28}{15} \div \frac{48}{5} = \frac{28}{15} \cdot \frac{5}{48}$$

$$= \frac{7}{36}$$

$$= \boxed{\frac{7}{36}}$$

$$9. 3\frac{3}{4} \div 6 + 2\frac{7}{12}$$

$$\frac{15}{4} \cdot \frac{1}{6} + \frac{31}{12}$$

$$\frac{5}{8} + \frac{31}{12} = \frac{15}{24} + \frac{62}{24}$$

$$= \frac{77}{24} = \boxed{3\frac{5}{24}}$$

Directions: Evaluate.

$$10. 18.4 + 195.91$$

$$18.473 + 195.910$$

$$= 214.383$$

$$= \boxed{214.383}$$

$$11. 46.2 - 9.048$$

$$46.200 - 9.048$$

$$= 37.152$$

$$= \boxed{37.152}$$

$$12. 116(2.3)$$

$$116 \times 2.3$$

$$266.8$$

$$= \boxed{266.8}$$

13. $7.4(6.28)$ $\begin{array}{r} 7.40 \\ \times 6.28 \\ \hline 5920 \\ 14800 \\ 444000 \\ \hline 46.4720 \end{array}$ 46.472	14. $8.75(0.09)$ $\begin{array}{r} 8.75 \\ \times .09 \\ \hline .7875 \end{array}$ 0.7875	15. $51.3 - 4.7(9.8)$ $\begin{array}{r} 4.7 \\ \times 9.8 \\ \hline 376 \\ 4230 \\ \hline 46.06 \end{array}$ $\begin{array}{r} 51.30 \\ - 46.06 \\ \hline 5.24 \end{array}$ 5.24
16. $19.6 \div 7$ $\begin{array}{r} 2.8 \\ 7 \overline{)19.6} \\ -14 \\ \hline 56 \\ -56 \\ \hline 0 \end{array}$ 2.8	17. $\frac{90.72}{18}$ $\begin{array}{r} 5.04 \\ 18 \overline{)90.72} \\ -90 \\ \hline 072 \\ -72 \\ \hline 0 \end{array}$ 5.04	18. $\frac{28.2}{0.6}$ $\begin{array}{r} 47 \\ 6 \overline{)282} \\ -24 \\ \hline 42 \\ -42 \\ \hline 0 \end{array}$ 47
19. $5.11 \div 3.65$ $\begin{array}{r} 1.4 \\ 365 \overline{)511.0} \\ -365 \\ \hline 1460 \\ -1460 \\ \hline 0 \end{array}$ 1.4	20. $\frac{22.5}{4.5}$ $\begin{array}{r} 5 \\ 4.5 \overline{)22.5} \\ -9.0 \\ \hline 13.5 \\ -13.5 \\ \hline 0 \end{array}$ 5	21. $2.12 \div 0.008 - 72.87$ $\begin{array}{r} 265 \\ 8 \overline{)2120.} \\ -16 \\ \hline 520 \\ -48 \\ \hline 400 \\ -400 \\ \hline 0 \end{array}$ $\begin{array}{r} 1149.10 \\ 865.00 \\ - 72.87 \\ \hline 192.13 \end{array}$ 192.13

Topic 2: Application of Fractions & Decimal Operations

Directions: Solve each problem. Write each answer as a fraction or mixed number in simplest form.

22. Nadia needs pieces of yarn for a craft project. She has $\frac{23}{9}$ yards of string and a piece needs to be $\frac{2}{15}$ yards long, how many pieces can she cut?

$$\begin{aligned} \frac{23}{9} \div \frac{2}{15} &= \frac{23}{9} \cdot \frac{15}{2} \\ &= \frac{115}{6} = 19.1 \end{aligned}$$

19 pieces

23. Jill ran $12\frac{1}{12}$ miles on Friday and $4\frac{5}{9}$ miles on Sunday. How many more miles did she run on Friday than on Sunday?

$$\begin{aligned} \frac{145}{12} - \frac{41}{9} &= \frac{435}{36} - \frac{164}{36} \\ &= \frac{271}{36} \\ &= 7\frac{19}{36} \text{ mi} \end{aligned}$$

24. Lia is snorkeling with her brother Tom. If Lia is $5\frac{7}{10}$ feet below the surface of the water and Tom is $1\frac{1}{3}$ times further below the surface than Lia, how many feet below the water is Tom?

$$5\frac{7}{10} \cdot \frac{4}{3} = \frac{38}{5}$$

$$= 7\frac{3}{5} \text{ ft}$$

25. Colin started a new book on Monday. If he read $\frac{1}{8}$ of the book on Monday and $\frac{7}{20}$ of the book on Tuesday, what fraction of the book does he have left?

$$1 - \frac{1}{8} - \frac{7}{20}$$

$$= \frac{5}{40} + \frac{14}{40}$$

$$= \frac{19}{40}$$

26. Erin combined $1\frac{17}{18}$ pounds of peanuts with $1\frac{5}{6}$ pounds of M&M's to create trail mix, then evenly distributed the mix into 8 bags. How many pounds trail mix are in each bag?

$$\frac{35}{18} + \frac{11}{6}$$

$$= \frac{35}{18} + \frac{33}{18}$$

$$= \frac{68}{18} = \frac{34}{9}$$

$$\frac{34}{9} \div 8$$

$$= \frac{17}{36} \text{ lb}$$

27. Tyler has $\frac{9}{16}$ pounds of raisins. He uses $\frac{2}{5}$ of the raisins to make raisin bread. How many pounds of raisins does he have left?

$$\frac{9}{16} - \frac{2}{5}$$

$$= \frac{45}{80} - \frac{32}{80}$$

$$= \frac{13}{80}$$

Directions: Solve.

28. On a certain day, the high temperature was 91.4 degrees and the low temperature was 75.92 degrees. Find the range in the temperature that day.

$$91.4 - 75.92$$

$$= 15.48 \text{ degrees}$$

29. One swimmer swam 4 laps of the pool in 6.2 minutes. How many minutes did it take him to swim each lap?

$$6.2 \div 4$$

$$= 1.55 \text{ min}$$

30. A runner burns 8.7 calories per minute running. If she runs for 45.2 minutes, how many calories will she burn?

$$8.7 \times 45.2$$

$$= 393.24$$

$$393.24 \text{ cal}$$

31. Frank has a gas tank with 5 gallons of gas. If he uses 0.36 gallons each time he cuts the grass, how many times can he cut the grass?

$$5 \div 0.36$$

$$= 13.88$$

$$= 13 \text{ times}$$

32. What is the minimum number of rows of bricks needed to build a wall that is at least 4 feet tall if each brick is 2.25 inches tall?

↓
48 in

$$\begin{array}{r} 21.33 \\ 225 \overline{) 4800.00} \\ \underline{-450} \\ 300 \\ \underline{-225} \\ 750 \\ \underline{-675} \\ 750 \\ \underline{-675} \\ 75 \end{array}$$

22
bricks

33. The salad bar at the grocery store costs \$5.95 per pound. If Gary makes a salad that weighs 1.3 pounds and pays with a \$20 bill, how much change will he receive? Round to the nearest cent.

$$\begin{array}{r} 5.95 \\ \times 1.3 \\ \hline 1785 \\ 5950 \\ \hline 7.735 \end{array}$$

$$\begin{array}{r} 19.90 \\ - 2.16 \\ \hline 17.74 \end{array}$$

17.74

Topic 4: Fractions vs. Decimals

Directions: Write each decimal as a fraction or mixed number in simplest form.

34. 1.2

$$1\frac{2}{10} = \boxed{1\frac{1}{5}}$$

35. 0.84

$$\frac{84}{100} = \boxed{\frac{21}{25}}$$

36. 9.75

$$9\frac{75}{100} = \boxed{9\frac{3}{4}}$$

Directions: Write each fraction or mixed number as a decimal.

37. $2\frac{5}{8}$

$$\begin{array}{r} .625 \\ 8 \overline{) 5.000} \\ \underline{-48} \\ 20 \\ \underline{-16} \\ 40 \\ \underline{-40} \\ 0 \end{array}$$

38. $0.\overline{116}$

$$\begin{array}{r} 1.66 \\ 10 \overline{) 16.600} \\ \underline{-10} \\ 600 \\ \underline{-600} \\ 0 \end{array}$$

39. $\frac{43}{9}$

$$\begin{array}{r} 4.777 \\ 9 \overline{) 43.000} \\ \underline{-36} \\ 70 \\ \underline{-63} \\ 70 \\ \underline{-63} \\ 70 \\ \underline{-63} \\ 7 \end{array}$$

$\boxed{4.\overline{7}}$

Directions: Compare by placing a <, >, or = symbol in the circle.

40. $1.\overline{1}$

$$\begin{array}{r} 1.4 \\ 5 \overline{) 2.0} \\ \underline{-20} \\ 0 \end{array}$$

41. $\frac{11}{15} \bigcirc 0.73$

$0.7\overline{3}$

$$\begin{array}{r} .733 \\ 15 \overline{) 11.000} \\ \underline{-105} \\ 50 \\ \underline{-45} \\ 50 \\ \underline{-45} \\ 5 \end{array}$$

42. $2\frac{9}{14} \bigcirc 2.\overline{6}$

2.642

$$\begin{array}{r} .642 \\ 14 \overline{) 9.000} \\ \underline{-84} \\ 60 \\ \underline{-56} \\ 40 \\ \underline{-28} \\ 12 \end{array}$$

43. The table below shows the amount of time, in hours, that three students spent studying for their math test. Which student spent the most time studying?

Elena	$1\frac{4}{7}$
Mina	1.56
Darrell	$1\frac{7}{12}$

1.583

$$\begin{array}{r} 1.571 \\ 1 \overline{) 4.000} \\ \underline{-35} \\ 50 \\ \underline{-49} \\ 10 \\ \underline{-9} \\ 1 \\ \underline{-1} \\ 0 \end{array}$$

$$\begin{array}{r} 1.583 \\ 12 \overline{) 7.000} \\ \underline{-60} \\ 100 \\ \underline{-96} \\ 40 \\ \underline{-36} \\ 4 \end{array}$$

Darrell

44. Order from least to greatest: $0.\overline{45}$, $\frac{9}{20}$, $\frac{4}{9}$

$$\begin{array}{r} .45 \\ 20 \overline{) 9.00} \\ \underline{-80} \\ 100 \\ \underline{-100} \\ 0 \end{array}$$

$$\begin{array}{r} .444 \\ 9 \overline{) 4.000} \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 4 \end{array}$$

0.45 0.4

Topic 5: Negative Rational Numbers

Directions: Find each absolute value.

45. $|4.07|$ 4.07

46. $|-2\frac{1}{6}|$ $2\frac{1}{6}$

47. $|\frac{11}{16}|$

48. $|-0.832|$ 0.832

Directions: Compare by placing a $<$, $>$, or $=$ symbol in the circle.

49. $-\frac{3}{4}$ $>$ $-\frac{17}{20}$

$$\begin{array}{r} -15 \\ 20 \end{array}$$

50. $-\frac{5}{12}$ $<$ $-\frac{9}{8}$

$$\begin{array}{r} -10 \\ 24 \end{array}$$

$$\begin{array}{r} 9 \\ 24 \end{array}$$

51. -4.087

52. $-3\frac{1}{6}$ $>$ -3.2

$$\begin{array}{r} -3.16 \\ 6 \overline{) 1.000} \\ \underline{-6} \\ 40 \\ \underline{-36} \\ 4 \end{array}$$

53. -2.08 $<$ $-2\frac{2}{25}$

$$\begin{array}{r} -2.08 \\ 25 \overline{) 2.00} \\ \underline{-0} \\ 200 \\ \underline{-200} \\ 0 \end{array}$$

54. $-4\frac{2}{3}$ $<$ -4.6

$$\begin{array}{r} -4.666 \\ 3 \overline{) 2.000} \\ \underline{-18} \\ 20 \\ \underline{-18} \\ 20 \\ \underline{-18} \\ 2 \end{array}$$

55. Order from least to greatest:

$-\frac{7}{25}$, -0.35 , -0.2
 -0.28

$$\begin{array}{r} 25 \overline{) 7.00} \\ \underline{-50} \\ 200 \\ \underline{-200} \\ 0 \end{array}$$

$-0.35, -0.28, -0.2$

56. Order from greatest to least:

$-2\frac{1}{3}$, -2.61 , $-2\frac{2}{5}$
 -2.3 -2.4

$$\begin{array}{r} .33 \\ 3 \overline{) 1.00} \\ \underline{-9} \\ 10 \\ \underline{-9} \\ 1 \end{array}$$

$$\begin{array}{r} 4 \\ 5 \overline{) 2.0} \\ \underline{-20} \\ 0 \end{array}$$

$-2\frac{1}{3}, -2\frac{2}{5}, -2.61$

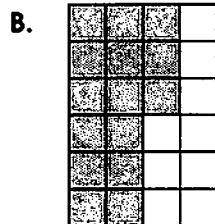
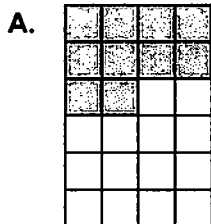
Name: _____

Date: _____ Per: _____

Unit 3 Test

Rational Numbers

1. Which model is equivalent to the fraction $\frac{5}{8}$?



$$\frac{15}{24} = \frac{5}{8}$$

B

Evaluate. Write each answer as a fraction in simplest form. Use a mixed number when possible.

2. $\frac{5}{6} + 1\frac{7}{15}$

$$\frac{5}{6} + \frac{22}{15}$$

$$= \frac{25}{30} + \frac{44}{30}$$

$$= \frac{69}{30}$$

$$= \frac{23}{10}$$

3

3. $1\frac{1}{8} - \frac{3}{8} + \frac{1}{12}$

$$1\frac{3}{8} - \frac{3}{8} + \frac{1}{12}$$

$$\frac{12}{8} - \frac{3}{8} + \frac{25}{120}$$

$$\frac{9}{8} + \frac{25}{120}$$

$$\frac{27}{24} + \frac{50}{240} = \frac{17}{24}$$

$3\frac{5}{24}$

4. $\frac{3\frac{5}{8} - \frac{5}{8}}{5}$

$$\frac{\frac{3}{5}}{\frac{5}{5}} = \frac{3}{5}$$

$\frac{3}{20}$

5. $\frac{35}{18} \cdot \left(\frac{4}{3} - \frac{8}{15} \right)$

$$\frac{35}{18} \cdot \left(\frac{20}{15} - \frac{8}{15} \right)$$

$$\frac{7 \cdot 35}{3 \cdot 18} \cdot \frac{12}{15} = \frac{14}{9}$$

$1\frac{5}{9}$

6. $\frac{9}{16} \div \frac{1}{8}$

$$\frac{26}{18} \cdot \frac{13}{5} = \frac{39}{40}$$

$\frac{39}{40}$

7. $2\frac{2}{3} + \frac{9}{4} \div 3$

$$\frac{8}{3} + \frac{9}{4} \cdot \frac{1}{3}$$

$$\frac{8}{3} + \frac{3}{4} = \frac{32}{12} + \frac{9}{12}$$

$$= \frac{41}{12}$$

$3\frac{5}{12}$

8. Samantha ran one mile in $8\frac{7}{8}$ minutes. This was $1\frac{3}{10}$ minutes longer than her friend Marissa's time. What was Marissa's time?

$$\begin{aligned} & 8\frac{7}{8} - 1\frac{3}{10} \\ &= \frac{71}{8} - \frac{13}{10} \\ &= \frac{355}{40} - \frac{52}{40} \\ &= \frac{303}{40} \end{aligned}$$

- A. $7\frac{27}{40}$ minutes C. $7\frac{13}{20}$ minutes
B. $7\frac{23}{40}$ minutes D. $7\frac{11}{20}$ minutes

B

9. A stretch of the highway between Exit A and Exit B is $16\frac{8}{9}$ miles long. If a car travels $\frac{3}{4}$ of the way from Exit A to Exit B, how far is the car from Exit A?

$$\begin{aligned} & 16\frac{8}{9} \cdot \frac{3}{4} \\ &= \frac{38152}{3} \cdot \frac{3}{4} \\ &= \frac{38}{3} \end{aligned}$$

- A. $12\frac{5}{6}$ miles C. $9\frac{7}{18}$ miles
B. $12\frac{2}{3}$ miles D. $9\frac{11}{12}$ miles

B

10. If $4\frac{1}{6}$ ounces of red paint is combined with $3\frac{14}{15}$ ounces of yellow paint to create orange paint, how many ounces of orange paint are in the mixture?

$$\begin{aligned} & 4\frac{1}{6} + 3\frac{14}{15} \\ &= \frac{25}{6} + \frac{59}{15} \\ &= \frac{125}{30} + \frac{118}{30} = \frac{243}{30} \\ &= \frac{81}{10} \end{aligned}$$

- A. $7\frac{29}{30}$ ounces C. $8\frac{1}{10}$ ounces
B. $7\frac{14}{15}$ ounces D. $7\frac{1}{15}$ ounces

C

11. Debra has 4 rolls of wire. Each roll of wire is $17\frac{5}{8}$ feet long. If he needs to cut the wire into pieces that are $1\frac{1}{8}$ feet long, how many pieces of wire can he cut using these 4 rolls of wire?

$$\begin{aligned} & 17\frac{5}{8} \div 1\frac{1}{8} \\ &= \frac{141}{8} \div \frac{9}{8} \\ &= \frac{141}{8} \cdot \frac{8}{9} = \frac{47}{3} = 15\frac{2}{3} \end{aligned}$$

$15 \cdot 4 = 60$

- A. 16 pieces
B. 48 pieces
C. 60 pieces
D. 62 pieces

C

Evaluate. Write each answer as a decimal.

12. $21.253 - 9.98$

$$\begin{array}{r} 21.253 \\ - 9.980 \\ \hline 11.273 \end{array}$$

11.273

13. 0.74×12.55

$$\begin{array}{r} 12.55 \\ \times 0.74 \\ \hline 5020 \\ 87850 \\ \hline 9.2870 \end{array}$$

9.287

14. $3.2(7.419)$

$$\begin{array}{r} 7.419 \\ \times 3.2 \\ \hline 14838 \\ 222570 \\ \hline 23.7408 \end{array}$$

23.7408

15. $52.02 \div 9$

$$\begin{array}{r} 5.78 \\ \overline{)52.02} \\ \underline{52.02} \\ 0 \end{array}$$

5.78

16. $\frac{45.2}{1.6}$

$$\begin{array}{r} 28.25 \\ \overline{)45.20} \\ \underline{32.00} \\ 13.20 \\ \underline{12.80} \\ 40 \\ \underline{32} \\ 80 \\ \underline{80} \\ 0 \end{array}$$

28.25

17. $16.5 \div 0.04$

$$\begin{array}{r} 412.5 \\ 4 \overline{)1650.0} \\ \underline{-16} \\ 05 \\ \underline{-4} \\ 10 \\ \underline{-8} \\ 20 \\ \underline{-20} \\ 0 \end{array}$$

412.5

18. Callie is buying a TV that costs \$648.87 in total with tax. If she pays for the TV in four equal monthly payments, how much, to the nearest cent, will she pay each month?

$$\begin{array}{r} 162.217 \\ 4 \overline{) 648.870} \\ \underline{-4} \\ 24 \\ \underline{-24} \\ 08 \\ \underline{-8} \\ 08 \\ \underline{-8} \\ 07 \\ \underline{-4} \\ 30 \\ \underline{-28} \\ 2 \end{array}$$

\$162.22

19. The total rainfall in a certain city was 29.785 inches last year. This was 1.08 inches less than the average annual rainfall. Find the average annual rainfall.

$$\begin{array}{r} 29.785 \\ + 1.080 \\ \hline 30.865 \end{array}$$

30.865 in

20. Blair is buying strawberries and bananas to make smoothies. Strawberries cost \$1.80 per pound and bananas cost \$0.55 per pound. If she buys 3.25 pounds of strawberries and 2.6 pounds of bananas and pays with a \$5 bill, how much change will she receive?

$$\begin{array}{r} 1.80 \\ \times 3.25 \\ \hline 900 \\ 3600 \\ 54000 \\ \hline 58500 \end{array}$$

$$\begin{array}{r} 0.55 \\ \times 2.6 \\ \hline 330 \\ 1100 \\ \hline 1430 \end{array}$$

$$\begin{array}{r} 5.85 \\ + 1.43 \\ \hline 7.28 \end{array}$$

\$3.72

21. A board is 46.6 inches wide. How many rows of boards are needed to cover a space that is 2100.0 inches wide?

$$\begin{array}{r} 46.6 \\ 2100.0 \\ \underline{-180} \\ 300 \\ \underline{-270} \\ 300 \\ \underline{-270} \\ 30 \end{array}$$

- A. 44 boards
B. 46 boards
C. 47 boards
D. 49 boards

C

22. Write the mixed number in simplest form:

$5 \frac{19}{25}$

23. Write as a decimal:

$$\begin{array}{r} 1 \frac{3}{16} \\ 16 \overline{) 3.0000} \\ \underline{-16} \\ 140 \\ \underline{-128} \\ 120 \\ \underline{-112} \\ 80 \\ \underline{-80} \\ 0 \end{array}$$

1.1875

24. Write as a decimal:

$$\begin{array}{r} 4 \frac{7}{30} \\ 30 \overline{) 7.000} \\ \underline{-60} \\ 100 \\ \underline{-90} \\ 100 \\ \underline{-90} \\ 10 \end{array}$$

0.23

25. Which values are less than 0.324? Check all that apply.

$$\begin{array}{r} .35 \\ 20 \overline{) 7.00} \\ \underline{-60} \\ 100 \\ \underline{-100} \\ 0 \end{array}$$

$$\begin{array}{r} .266 \\ 15 \overline{) 4.000} \\ \underline{-30} \\ 100 \\ \underline{-90} \\ 100 \\ \underline{-90} \\ 10 \end{array}$$

$$\begin{array}{r} .325 \\ 40 \overline{) 13.000} \\ \underline{-120} \\ 100 \\ \underline{-80} \\ 200 \\ \underline{-200} \\ 0 \end{array}$$

$$\begin{array}{r} .4166 \\ 12 \overline{) 5.0000} \\ \underline{-48} \\ 20 \\ \underline{-12} \\ 80 \\ \underline{-72} \\ 8 \end{array}$$

0.35	☐ $\frac{7}{20}$	☒ $\frac{4}{15}$	0.26
0.325	☐ $\frac{13}{40}$	☐ $\frac{1}{2}$	0.416
	☒ 0.0975	☐ 0.0975	

26. Which statement is true?

A. $2.08 > 2\frac{1}{5}$

$2.08 > 2.2$

B. $\frac{5}{16} = 0.32$

$0.3125 = 0.32$

C. $1\frac{12}{25} < 1.45$

$1.48 < 1.45$

D. $\frac{2}{9} > 0.2$

$0.\overline{2} > 0.2$

D

27. If the list of numbers below is ordered from least to greatest, which value is in the box?

1.5	☐ ?	1.83
A. $1\frac{9}{11}$	C. $1\frac{1}{4}$	1.75
B. $1\frac{11}{81}$	D. $1\frac{17}{20}$	1.85

B

28. Which statement is true?

A. $|-6.2| = 6.2$

B. $|6.2| = -6.2$

C. $|\frac{1}{4}| = \frac{1}{4}$

D. $|\frac{1}{4}| = -\frac{1}{4}$

A

Which value is the greatest?

A. -1.25

B. -0.85

C. $-\frac{2}{3}$ $-0.\overline{6}$

D. $-\frac{7}{10}$ -0.7

C

29. The values are listed below. List the values in order from greatest to least using the letters.

	-1.5
	$-1\frac{1}{6}$
C	$-1\frac{1}{3}$
D	-1.09

$-1.\overline{16}$

$-1.\overline{3}$

$$\begin{array}{r} .166 \\ 6 \overline{) 1.000} \\ \underline{-6} \\ 40 \\ \underline{-36} \\ 40 \\ \underline{-36} \\ 4 \end{array}$$

$$\begin{array}{r} .333 \\ 3 \overline{) 1.000} \\ \underline{-9} \\ 10 \\ \underline{-9} \\ 10 \\ \underline{-9} \\ 1 \end{array}$$

D B C A

CREDITS

I use clipart and
fonts in my products



Art with Penny



Many thanks to these
talented artists!