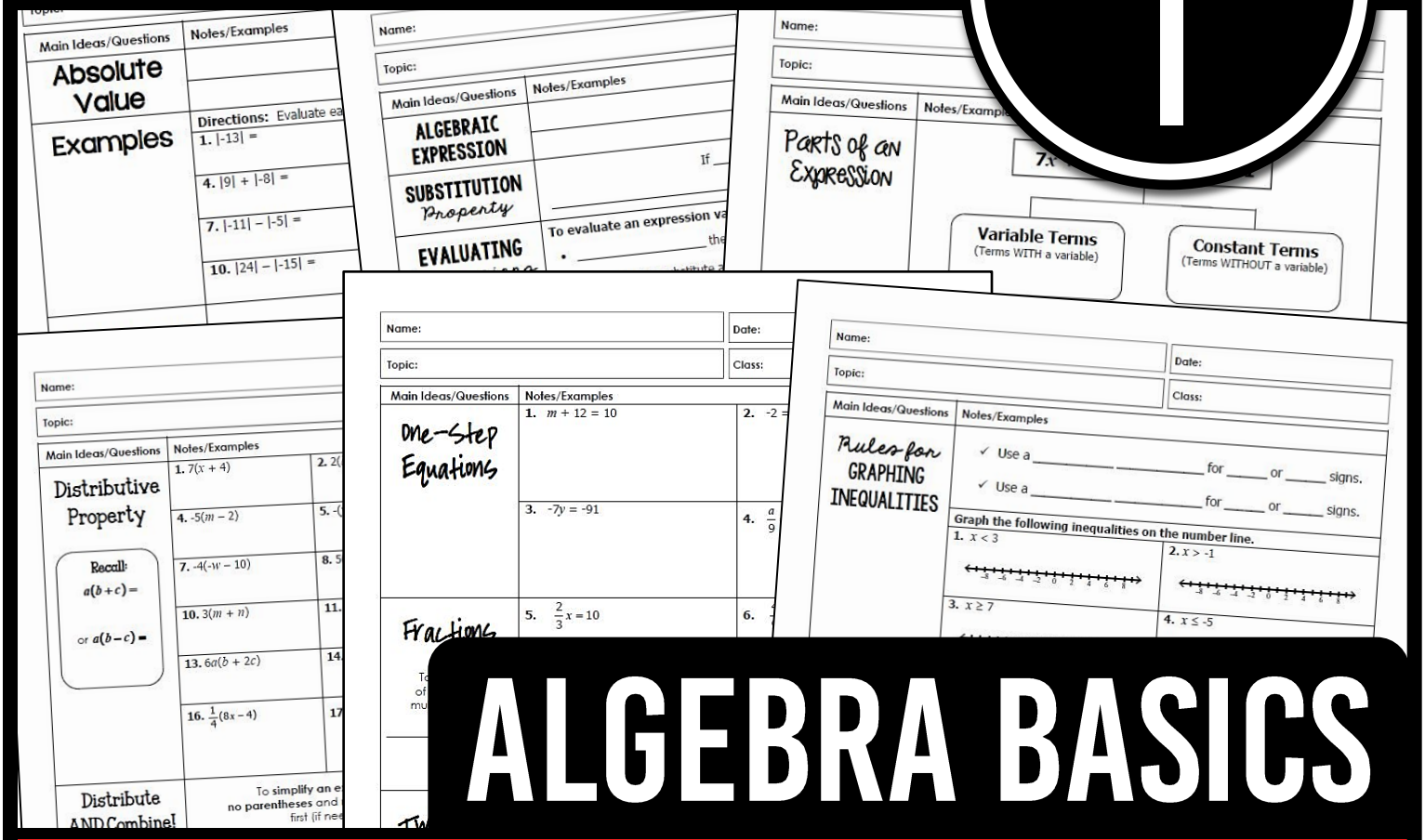
ALGEBRA I

Unit 1



ALGEBRA BASICS

NOTES • HOMEWORK • QUIZZES • TEST

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Unit 1 – Algebra Basics: Sample Unit Outline

	TOPIC	HOMEWORK
DAY 1	The Real Number System	HW #1
DAY 2	Properties	HW #2
DAY 3	"Sell that Property" Performance Task	HW #3
DAY 4	**Quiz 1-1**	None
DAY 5	Order of Operations & Absolute Value	HW #4
DAY 6	Evaluating Expressions	HW #5
DAY 7	Matrices	HW #6
DAY 8	**Quiz 1-2**	None
DAY 9	Combining Like Terms	HW #7
DAY 10	Simplifying Expressions (Distribute/Combine)	HW #8
DAY 11	Translating Expressions/Equations/Inequalities	HW #9
DAY 12	**Quiz 1-3**	None
DAY 13	Solving Two-Step Equations	HW #10
DAY 14	Solving & Graphing Two-Step Inequalities	HW #11
DAY 15	"Translating and Solve" Practice Worksheet Unit 1 Test Review	Complete Study Guide
DAY 16	**UNIT 1 TEST**	None

See sample images of the pages on the next page.

The Real Number System

REAL NU

___ = _____

Decimals that never end and have no repeating pattern. *Think **MUMBO JUMBO NUMBERS***

IRRATIONAL NUMBERS

___ = _____

PROPERTIES OF REAL

In math, properties are statements that are t
They justify steps when simplifying expressions

PROPERTY	MAIN IDEA
COMMUTATIVE *Property* (of Addition or Multiplication)	_____ of values does not matter!
ASSOCIATIVE	

Name: _____ **Algebra I**

Date: _____ Bell: _____ **Unit 1:** Algebra Basics

Quiz 1-1: The Real Numbers & Properties

For Questions 1 – 5: Put an X in each set the number belongs.

	R (Real)	I (Irrational)	Q (Rational)	Z (Integers)	W (Whole)	N (Natur
1. 10						
2. $\frac{5}{6}$						
3. $\sqrt{24}$						
4. 0						

Name: Date:

Topic: Class:

Main Ideas/Questions	Notes/Examples
ALGEBRAIC EXPRESSION	
SUBSTITUTION	If _____, then

Name: Date:

Topic: Class:

Main Ideas/Questions	Notes/Examples
Parts of an Expression	$7x + 3 - 5x + 8 + 4x - 1$

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Main Ideas/Questions	Notes/Examples		
Distributive Property Recall: $a(b+c) =$ or $a(b-c) =$	1. $7(x+4)$	2. $2(b-3)$	3. $-4(y+3)$
	4. $-5(m-2)$	5. $-(y-9)$	6. $8(4-b)$
	7. $-4(-w-10)$	8. $5(2m-3)$	9. $-3(2x-4)$
	10. $3(m+n)$	11. $x(x+4)$	12. $d(c-4)$
	13. 6		
	16. $\frac{1}{}$		

Name: Date:

Topic: Class:

Main Ideas/Questions	Notes/Examples	
One-Step Equations	1. $m + 12 = 10$	2. $-2 = g - 9$
	3. $-7y = -91$	4. $\frac{a}{9} = -4$
Fractions To "get rid"	5. $\frac{2}{3}x = 10$	6. $\frac{4}{9}w = -8$
		8. $-\frac{1}{2}m = -9$

TWO-STEP EQUATION MAZE!

Directions: Use your solutions to navigate through the puzzle. **SHOW ALL STEPS!!!!**

Start! $4x + 10 = -26$

$\frac{x}{3} + 10 = 15$

$9 - 2x = 35$

$\frac{x-7}{4} = -2$

$\frac{1}{2}x + 13 = 9$

$\frac{3}{4}x - 9 = 27$

$8 - \frac{1}{3}x = 16$

$-12x - 17 = -89$

$-8 = \frac{x+11}{-2}$

$28 - 32x = 92$

$5 - x = 12$

$13 - \frac{3}{2}x = 37$

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Name:

Topic:

Main Ideas/Questions	Notes/Examples
Rules for GRAPHING INEQUALITIES	✓ Use a _____ ✓ Use a _____ **Graph the following inequalities** 1. $x < 3$ 3. $x \geq 7$ **Write an equality given the grapl** 5. 7.
Rules for SOLVING INEQUALITIES	**You must** _____ t _____ **by a** _____ **Solve and graph the following in** 9. $3x + 2 < -4$

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Unit 1 Test Study Guide
Algebra Basics

Name: _____

Date: _____

Topic 1: The Real Number System

List ALL sets to which each number belongs. (Use *R, I, Q, Z, W, N*)

1. $-\frac{14}{2}$	2. $\sqrt{64}$	3. 0
4. π	5. $0.\overline{45}$	6. $\frac{3}{8}$

Place the LETTER of each value its location in the real number system

A. $-0.\overline{2}$ B. 18

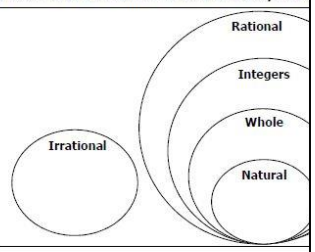
C. $-\sqrt{100}$ D. π

E. 0 F. $2\frac{1}{6}$

G. -5 H. 4.03

I. $-\sqrt{72}$ J. $\sqrt{\frac{4}{9}}$

K. $\frac{36}{9}$



Topic 2: Properties

Identify the property shown below.

7. $4 + (x + y) = (4 + x) + y$	8. $\frac{2}{5} \cdot \frac{5}{2} = 1$
9. if $\sqrt{49} = 7$ and $7 = 3 + 4$, then $\sqrt{49} = 3 + 4$	10. $-28 = -28$
11. $8x^2 \cdot 1 = 8x^2$	12. $10y + (-10y) = 0$
13. $(a+4) \cdot 0 = 0$	14. $-5(x + 7) = -5x - 35$
15. $(x + 2) + y = (2 + x) + y$	16. if $x = -1$, then $-1 = x$

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Name: _____ **Algebra I Unit 1 Test**

Date: _____ Bell: _____ (Algebra Basics)

SHOW ALL WORK NEEDED TO ANSWER EACH QUESTION!
PLACE YOUR FINAL ANSWER IN THE BOX. GOOD LUCK!

1. Which is the smallest set of real numbers that contains the value below?

$$-\frac{18}{6}$$

A. Irrational Numbers
B. Rational Numbers
C. Natural Numbers
D. Integers

2. Which set contains the value below?

$$\sqrt{50}$$

A. Irrational Numbers
B. Natural Numbers
C. Rational Numbers
D. Integers

3. The set below only contains which types of numbers?

$$\{-1, 5, \frac{1}{2}, 15, 3.75, 36, \sqrt{81}, 100\}$$

A. Irrational Numbers
B. Rational Numbers
C. Integers
D. Natural Numbers

4. Select all sets to which the value below belongs.

$$\sqrt{2} - \sqrt{2}$$

☐ Real Numbers
☐ Irrational Numbers
☐ Rational Numbers
☐ Integers
☐ Whole Numbers
☐ Natural Numbers

5. Which of the following is ***true*** regarding number sets?

A. All integers are whole numbers.
B. All irrational numbers are real numbers.
C. All real numbers are integers.
D. All rational numbers are natural numbers.

6. Which property justifies the statement below?

$$x(y - 3) = xy - 3x$$

A. Associative Property
B. Transitive Property
C. Distributive Property
D. Commutative Property

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