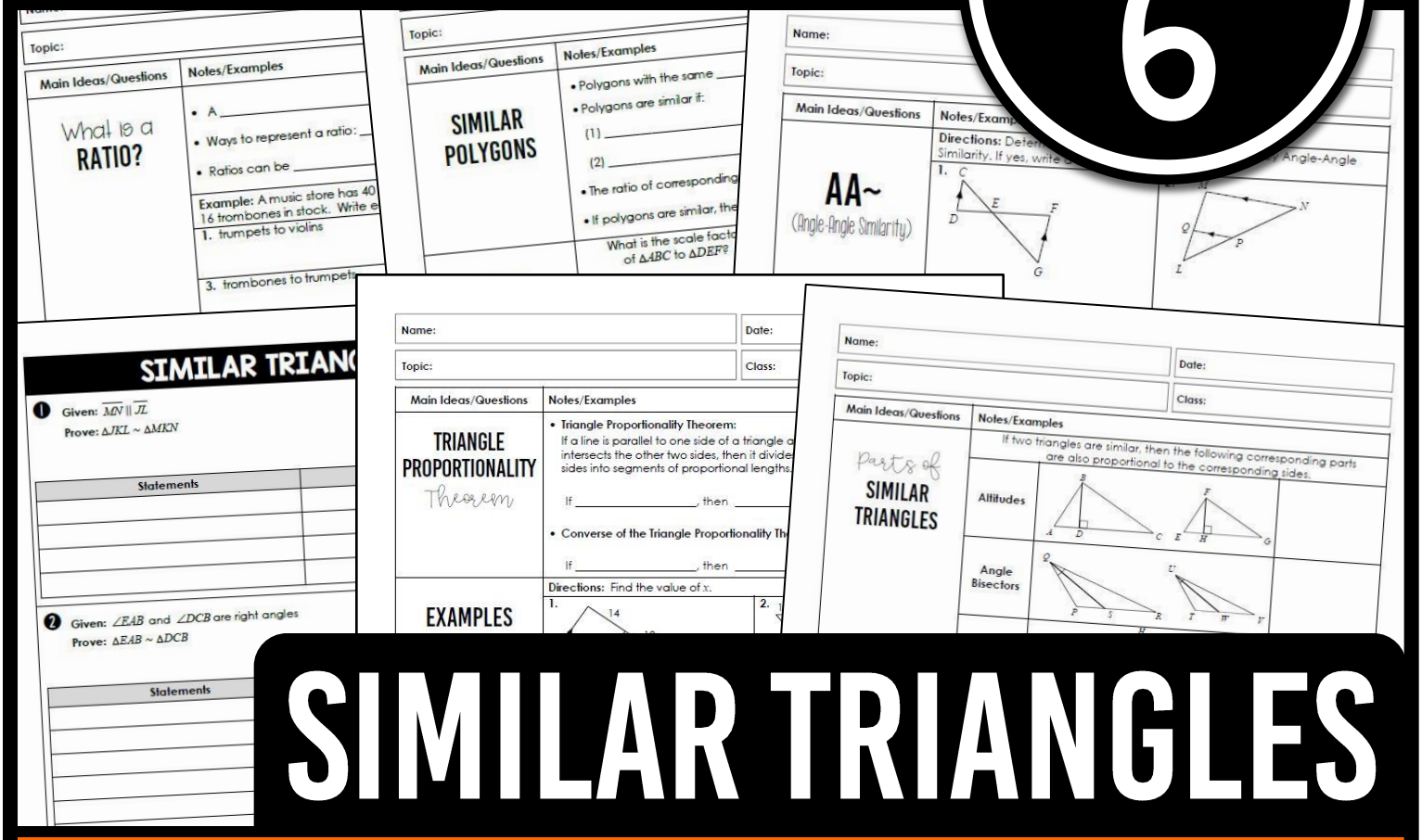
GEOMETRY

Unit 6



SIMILAR TRIANGLES

NOTES • HOMEWORK • QUIZZES • TEST

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Unit 6 – Similar Triangles: Sample Unit Outline

	TOPIC	HOMEWORK
DAY 1	Ratios and Proportions	HW #1
DAY 2	Similar Figures; Using Proportions to Solve for Missing Sides	HW #2
DAY 3	More Practice with Finding Missing Sides	↓
DAY 4	**Quiz 6-1**	None
DAY 5	Proving Triangles are Similar: SSS, SAS, and AA	HW #3
DAY 6	Similar Triangle Proofs	HW #4
DAY 7	**Quiz 6-2**	None
DAY 8	Parallel Lines & Proportional Parts	HW #5
DAY 9	Parts of Similar Triangles	HW #6
DAY 10	Unit 6 Review	Study for Test
DAY 11	**UNIT 6 TEST**	None

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Name: Date:

Topic:

Main Ideas/Questions	Notes/Examples
What is a RATIO?	• A _____ • Ways to represent a ratio: _____ • Ratios can be _____ **Example:** A music store has 40 16 trombones in stock. Write e 1. trumpets to violins 3. trombones to trumpets
EXTENDED RA	• A _____ • Extended ratios are written

Name: Date:

Topic: Class:

Main Ideas/Questions	Notes/Examples
SIMILAR POLYGONS	• Polygons with the same _____ bu • Polygons are similar if: (1) _____ (2) _____ • The ratio of corresponding sides is called t • If p

ARE WE SIMILAR ?

Directions: Determine whether the triangles are similar. If similar, st or SAS~), and write a similarity statement.

1 2

3

more practice with SIMILAR FIGURES

USE THE SIMILARITY RELATIONSHIP TO FIND THE INDICATED VALUE.

1. $\Delta QRS \sim \Delta TUV$; find x

2. $\Delta ABC \sim \Delta ADE$; find x

3. $\Delta MNP \sim \Delta QRP$; find PR

4. $\Delta BCD \sim \Delta FGE$; find FE

Triangle Similarity

AA~ Angle-Angle Similarity

If two corresponding angles are congruent, then the triangles are similar.

Determine if the examples below are similar by AA~. If yes, write a similarity statement.

1

SSS~ Side-Side-Side Similarity

If all corresponding sides are proportional, then the triangles are similar.

Determine if the examples below are similar by SSS~. If yes, write a similarity statement.

3

SAS~ Side-Angle-Side Si

If two corresponding proportional and the angles are congruent triangles are sir

Determine if the examp are similar by SAS~. If a similarity stater

5

Name: Date:

Topic: Class:

Main Ideas/Questions	Notes/Examples
AA~ (Angle-Angle Similarity)	**Directions:** Determine whether the triangles are similar by Angle-Angle Similarity. If yes, write a similarity statement. 1. 2.

SIMILAR TRIANGLE Proofs

1 **Given:** $\overline{MN} \parallel \overline{JL}$
Prove: $\Delta JKL \sim \Delta MKN$

Statements	Reasons

2 **Given:** $\angle EAB$ and $\angle DCB$ are right angles
Prove: $\Delta EAB \sim \Delta DCB$

Statements	Reasons

Name: Date:

Topic:

Main Ideas/Questions	Notes/Examples
TRIANGLE PROPORTIONALITY Theorem	• Triangle Proportionality Theorem If a line is parallel to one side of intersects the other two sides, th sides into segments of proportio If _____, then • Converse of the Triangle Propor If _____, then
EXAMPLES	**Directions:** Find the value of x. 1. 3. 5.

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Name: Date:

Topic: Class:

Main Ideas/Questions	Notes/Examples
Parts of SIMILAR TRIANGLES	If two triangles are similar, then the following are also proportional to the correspon Altitudes Angle Bisectors Medians
EXAMPLES	**Directions:** Given the similar triangles, solve for x. 1. $\Delta STU \sim \Delta DEC$ 2. $\Delta GHI \sim \Delta$ 3. $\Delta ABC \sim \Delta EGF$ 4. $\Delta PQR \sim \Delta$

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Unit 6 Test Study Guide
(Similar Triangles)

Name: _____

Date: _____ Per: _____

Topic 1: Ratio & Proportion

1. The ratio of the measures of the angles in a triangle is 8:3:4. Find the measures of the angles.

2. The ratio of the measures of the sides triangle is 9:12:5. If the perimeter of t triangle is 130 feet, find the measures sides.

Topic 2: Similar Figures

3. Find the scale factor of Figure A to Figure B.

4. Find the scale factor of Figure B to F

5. If $\Delta KLJ \sim \Delta VWU$, find the value of x.

6. If $\Delta NML \sim \Delta SRL$, find the value of x.

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Name: _____

Date: _____ Per: _____

Unit 6 Test
Similar Triangles

1. The ratio of the sides of a triangle is 2:6:7. If the perimeter of the triangle is 195 meters, what is the length of the longest side?

2. The ratio of the angles in a triangle is 3:10:7. What is the measure of the smallest angle?

3. What is the scale factor of Figure B to Figure A?

4. If the scale factor of Figure A to Figure B is 3:8, find the value of x.

5. If $\Delta GHJ \sim \Delta LMK$, with a scale factor of 5:6, find the perimeter of ΔGHJ.

6. If $\Delta CDE \sim \Delta FGE$, find the value of x.

7. If $\Delta HBN \sim \Delta LYR$, find the value of x.

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