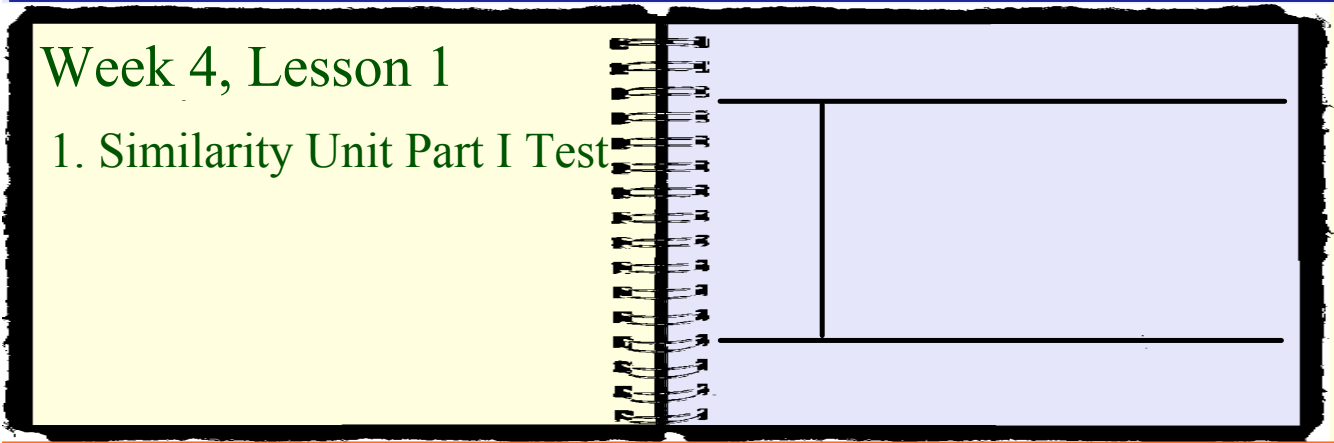


Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question



Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

Warm Up:

EQ: SRT.4 How do I use the side-splitter theorem?

Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question

Week 4, Lesson 2

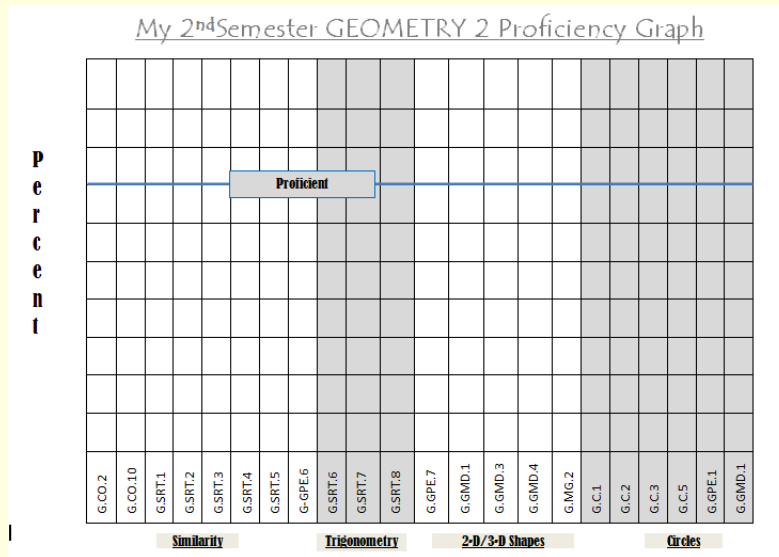
1. Warm Up
2. TI-Nspire activity
3. Notes
4. Practice
5. Closure

18
19

Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

Warm Up:

Looking at your progress report, fill in your scores for the standards you have.



G-CO.10—Tutor MUST COMPLETE IN ORDER TO TAKE RECOVERY QUIZ
NAME: _____ HOUR: _____

Geometry 2: Triangle Similarity Recovery VA
Name _____ Per _____

G.CO-10. Learning Target: *I can prove that the segment joining midpoints of two sides of a triangle is parallel to and half the length of the third side.*

periods 5 & 6...

1. Complete the following proof.

Given: $\square ABCD$

Prove: $\overline{AB} \cong \overline{CD}$ and $\overline{BC} \cong \overline{DA}$

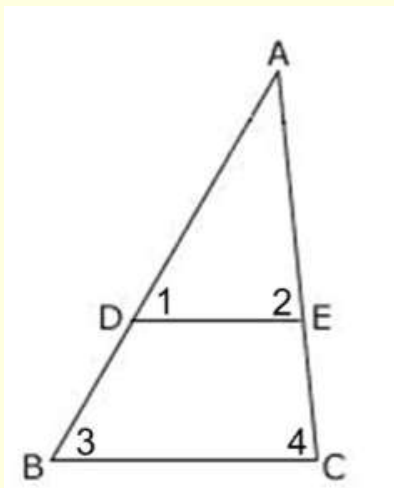
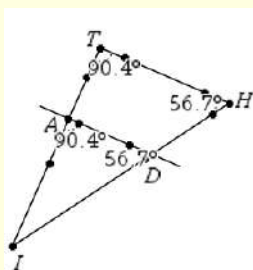
Statements	Reasons
1) $ABCD$ is a parallelogram.	1)
2) $\overline{AB} \parallel \overline{CD}$ and $\overline{BC} \parallel \overline{DA}$	2)
3) $\angle 1 \cong \angle 4$ and $\angle 3 \cong \angle 2$	3)
4) $\overline{AC} \cong \overline{AC}$	4)
5) $\triangle ABC \cong \triangle CDA$	5)
6) $\overline{AB} \cong \overline{CD}$ and $\overline{BC} \cong \overline{DA}$	6)

ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity

ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity

TI-NSpire Activity

Side-Splitter Theorem



What is the relationship between angles 1 and 3 and angles 2 and 4?

- alternate interior angles
- alternate exterior angles
- vertical angles
- corresponding angles

Which of the following is the correct way to write the proportion for the triangle shown?

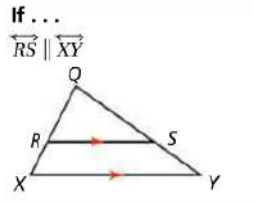
- $\frac{AD}{AE} = \frac{DB}{EC}$
- $\frac{AB}{DB} = \frac{AE}{EC}$
- $\frac{AD}{DB} = \frac{AE}{EC}$

notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes -

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Side-splitter theorem

If a line is parallel to one side of a triangle and intersects the other two sides, then it divides the two sides proportionally.

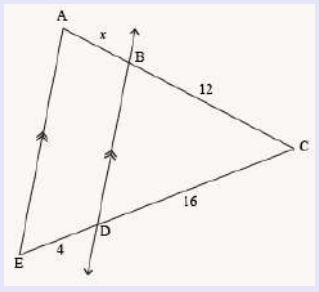


Then ...
 $\frac{XR}{RQ} = \frac{YS}{SQ}$

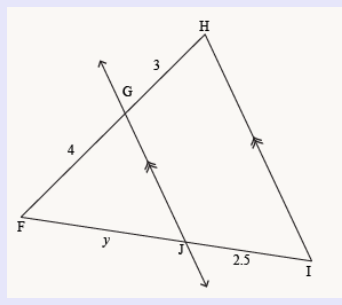
Given: $\triangle QXY$ with $\overleftrightarrow{RS} \parallel \overleftrightarrow{XY}$
Prove: $\frac{XR}{RQ} = \frac{YS}{SQ}$

Statements	Reasons
1) $\overleftrightarrow{RS} \parallel \overleftrightarrow{XY}$	1)
2) $\angle 1 \cong \angle 3, \angle 2 \cong \angle 4$	2)
3) $\triangle QXY \sim \triangle QRS$	3)
4) $\frac{XQ}{RQ} = \frac{YQ}{SQ}$	4)
5) $XQ = XR + RQ,$ $YQ = YS + SQ$	5) Segment Addition Postulate
6) $\frac{XR + RQ}{RQ} = \frac{YS + SQ}{SQ}$	6) Substitution Property
7) $\frac{XR}{RQ} = \frac{YS}{SQ}$	7) Subtraction Property

Example 1:



Example 2:



Summary:

ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity

ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity

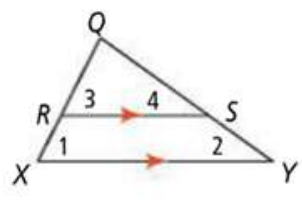
Name _____ pd _____ IAN.page18

Side-Splitter Theorem Practice

1. Complete the following proof.

Given: $\triangle QXY$ with $\overleftrightarrow{RS} \parallel \overleftrightarrow{XY}$

Prove: $\frac{XR}{RQ} = \frac{YS}{SQ}$

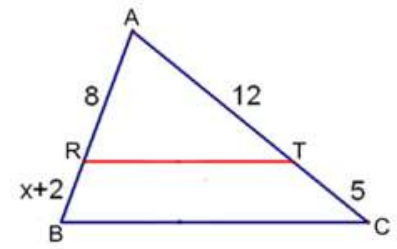


Statements	Reasons
1) $\overleftrightarrow{RS} \parallel \overleftrightarrow{XY}$	1)
2) $\angle 1 \cong \angle 3, \angle 2 \cong \angle 4$	2)
3) $\triangle QXY \sim \triangle QRS$	3)
4) $\frac{XQ}{RQ} = \frac{YQ}{SQ}$	4)

2. Given the figure at the right and that $\overleftrightarrow{RT} \parallel \overleftrightarrow{BC}$,

(a) Can you prove that $\triangle ABC \sim \triangle ART$? Explain why or why not.

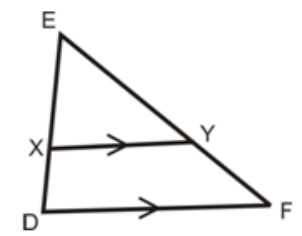
(b) Find the value of x. Be sure to show your work.



Midterm Review

3. In the triangle at the right, if $\overleftrightarrow{XY} \parallel \overleftrightarrow{DF}$, which of the following statements is true?

- (a) $\frac{EX}{XY} = \frac{ED}{DF}$ (b) $EY = XD$ (c) $EX = XD$ (d) $\frac{EX}{XD} = \frac{EY}{YF}$



4. Which of the following transformations does NOT create congruent figures?

- (a) dilation (b) reflection (c) translation (d) rotation

5. $\triangle WXY$ has vertices at $W(2,2)$, $X(6,6)$ and $Y(8,2)$. The triangle was then dilated using the origin as the center and the coordinates of the new image are $W'(1,1)$, $X'(3,3)$ and $Y'(4,1)$. Which of the following statements is true?

- (a) $k > 1$ (b) $k < 1$ (c) $k = 1$ (d) cannot be determined

6. $\triangle ABC$ is dilated, with the center of dilation at the origin, to form $\triangle A'B'C'$. Which of the following statements may be false?

- (a) $\angle ABC \cong \angle A'B'C'$ (b) $\triangle ABC \cong \triangle A'B'C'$ (c) $\triangle ABC \sim \triangle A'B'C'$ (d) $\frac{AB}{A'B'} = \frac{AC}{A'C'}$

EQ: SRT.5 How do I use similarity to solve word problems?

Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question

Week 4, Lesson 3

1. Warm Up
2. Left-Side Practice
3. Notes
4. Practice
5. Closure

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Word Problems--Similarity

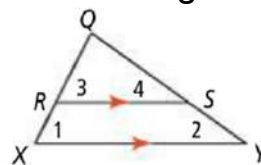
29

Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

Warm Up:

Without using your notes (if you can), complete the following reasons in the proof below.

Given: $\triangle QXY$ with $\overleftrightarrow{RS} \parallel \overleftrightarrow{XY}$
Prove: $\frac{XR}{RQ} = \frac{YS}{SQ}$



Statements	Reasons
1) $\overleftrightarrow{RS} \parallel \overleftrightarrow{XY}$	1) $\overleftrightarrow{RS} \parallel \overleftrightarrow{XY}$
2) $\angle 1 \cong \angle 3, \angle 2 \cong \angle 4$	2) Corresponding Angles
3) $\triangle QXY \sim \triangle QRS$	3) AA Similarity
4) $\frac{XQ}{RQ} = \frac{YQ}{SQ}$	4) Corresponding Sides
5) $XQ = XR + RQ,$ $YQ = YS + SQ$	5) Segment Addition Postulate
6) $\frac{XR + RQ}{RQ} = \frac{YS + SQ}{SQ}$	6) Substitution Property
7) $\frac{XR}{RQ} = \frac{YS}{SQ}$	7) Subtraction Property

notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes -

notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes -

Using Proportions to solve problems

Basic format:

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

Annotations: Red arrows point to 3 and 9 with the label "numbers". A green dashed arrow points to x with the label "one variable".

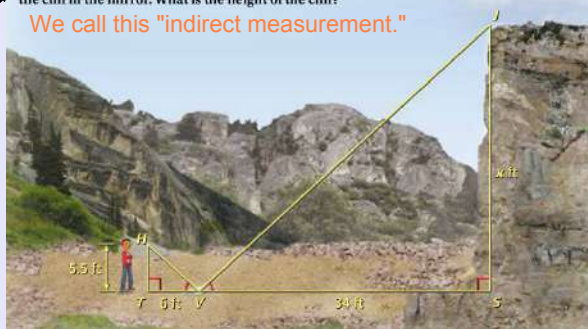
The location of the variable can change.

$$\frac{x}{6} = \frac{4}{12}$$

Example 1:

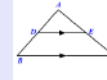
Rock Climbing Before rock climbing, Darius wants to know how high he will climb. He places a mirror on the ground and walks backward until he can see the top of the cliff in the mirror. What is the height of the cliff?

We call this "indirect measurement."



Are these two triangles similar? How?

How are these triangles different from the ones we just did?



Example 2:

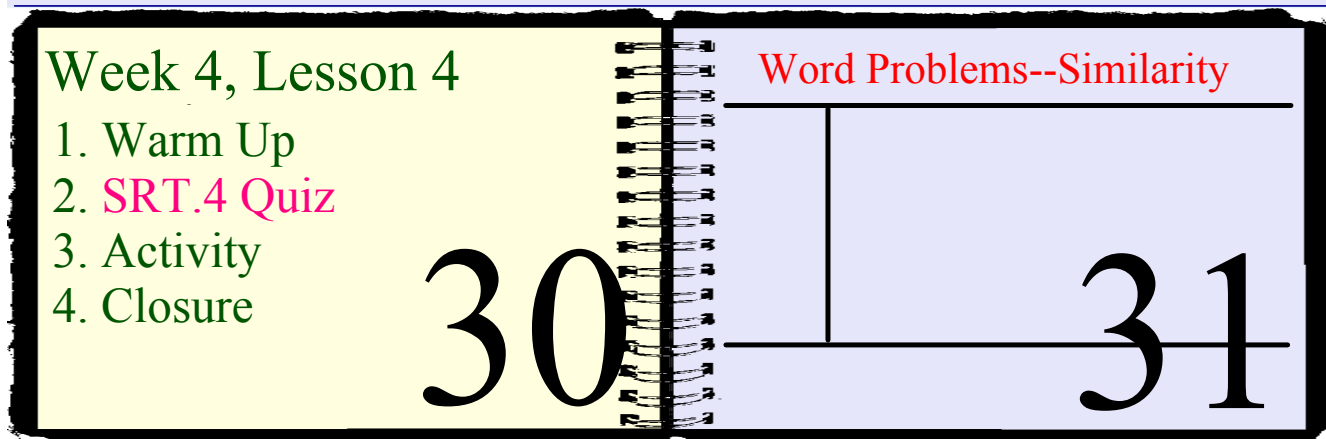
A 6-foot tall woman standing next to a bird bath casts an 18-foot shadow. If the bird bath casts a shadow that is 12 feet long, how tall is it?

Draw a picture. Are these two triangles similar? How?

Summary:

EQ: SRT.5 How do I use similarity to solve word problems?

Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question



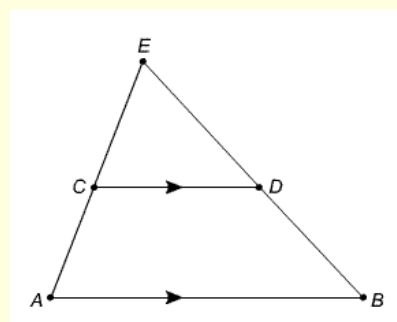
Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

Warm Up:

To review for the quiz, take a minute to look back over your notes on page 19 and the worksheet on page 18. Also, review the warm-up and left-side practice on page 20.

Then, answer the following questions:

1. Do you know the missing reasons in side-splitter proof?
2. Do you know why the following two triangles are similar?
3. Do you know how to set up the numbers in the diagram to solve for a variable?



SRT.4 Quiz

EQ: SRT.5 How do I use similarity to solve word problems?

Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question

Week 4, Friday

1. Warm Up
2. Finish activity
3. Midterm review
4. Closure

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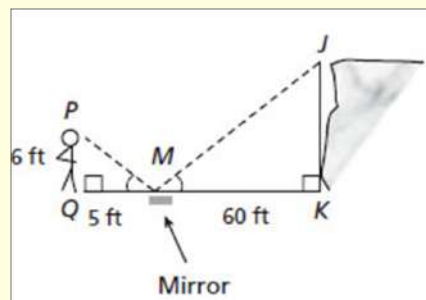
23

not a new page!!

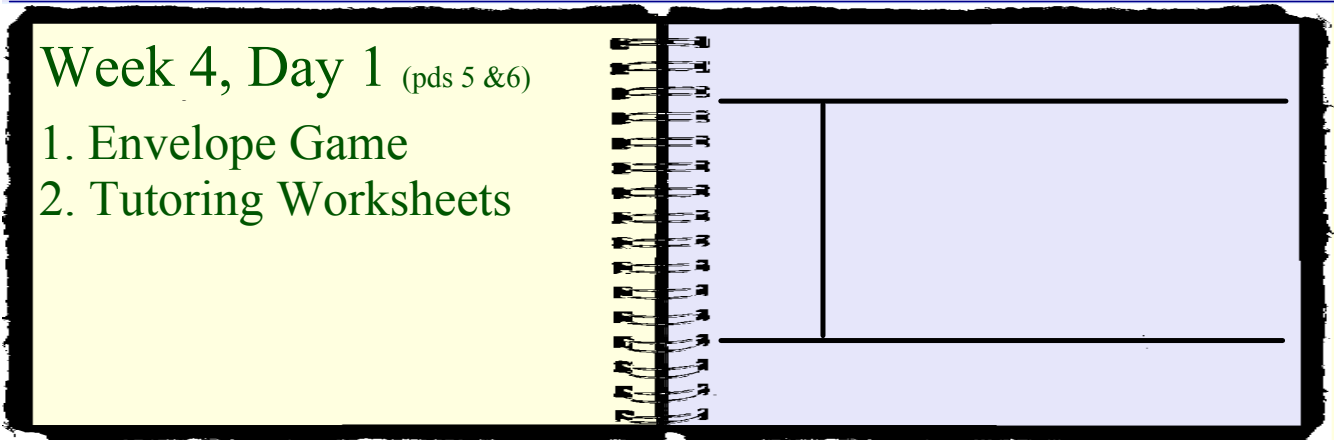
Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

Warm Up:

Using indirect measurement, you find the following measurements. What is the height of the cliff?

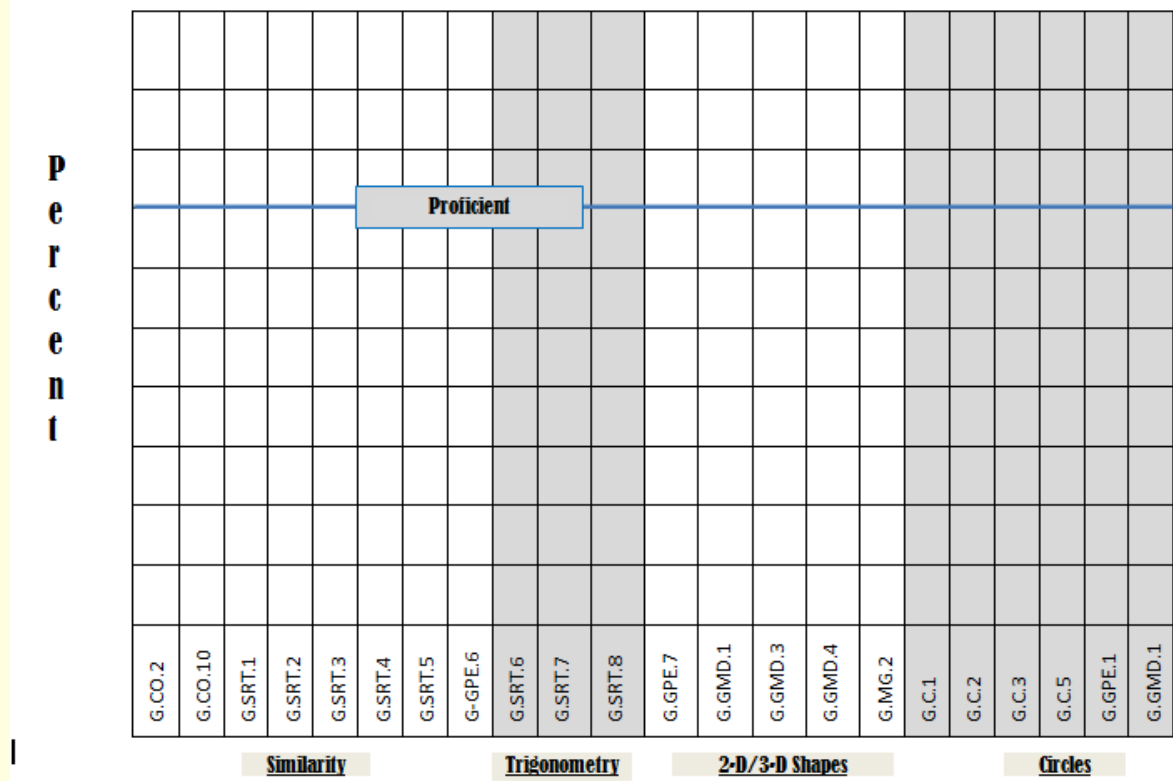


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Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

My 2nd Semester GEOMETRY 2 Proficiency Graph



G-CO.10—Tutor

MUST COMPLETE IN ORDER TO TAKE RECOVERY QUIZ
NAME: _____ HOUR: _____

Geometry 2: Triangle Similarity Recovery vA
Name _____ Per _____

G.CO-10. Learning Target: *I can prove that the segment joining midpoints of two sides of a triangle is parallel to and half the length of the third side.*

Name _____

Number _____

Envelope Game Worksheet

Solve each proportion.

1. $\frac{2}{3} = \frac{x}{15}$

2. $\frac{4}{9} = \frac{16}{x}$

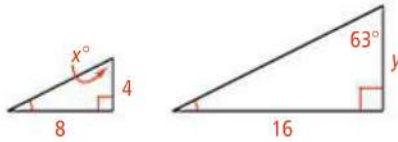
3. $\frac{x}{4} = \frac{6}{12}$

4. $\frac{x}{2} = \frac{3}{9}$

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

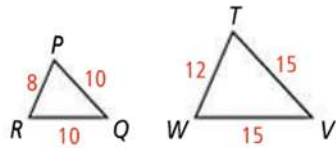
6. $\frac{3}{7} = \frac{9}{x}$

7. The two triangles shown below are similar. Find the value of x and the value of y.

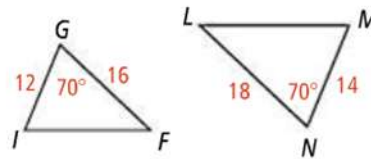


Determine whether the triangles shown are similar. If so, write a similarity statement. If not, explain why.

8.

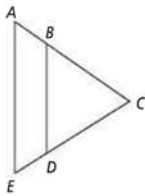


9.



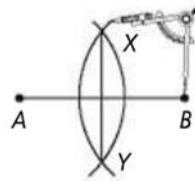
10. What is the midpoint of the segment whose endpoints are M(6,-11) and N(-18,7)?

11. Which of the following facts would be sufficient to prove $\triangle ACE \sim \triangle BCD$?



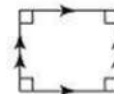
- F $\triangle BCD$ is a right triangle.
- G $\overline{AB} \cong \overline{ED}$
- H $m\angle A = m\angle E$
- I $\overline{AE} \parallel \overline{BD}$

12. What type of construction is shown below?



13. What is a name for the quadrilateral below?

- I. square
- II. rectangle
- III. rhombus
- IV. parallelogram



- A I only
- B IV only
- C II and IV
- D I, II, and IV

