
Good morning! Test tomorrow:)
1. "Here"
2. Unit 2 Test Review
3. Answer any questions before tomorrow
ONE MORE DAY UNTIL Winter BREAK!

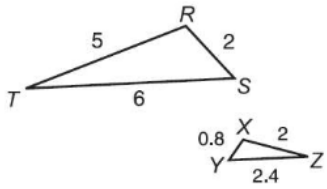
GSE Geometry 2- Similarity and Right Triangles Review
Name: _____ Date: _____

Unit 2 Test Review

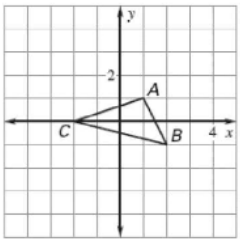
Similar Triangles:

1) In the figure, ΔRST ~ ΔXYZ.
   a) Find the scale factor of ΔRST to ΔXYZ.

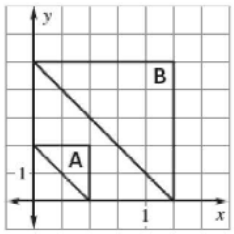
   b) Find the perimeter of both triangles. What is the ratio of the perimeters of the 2 triangles?



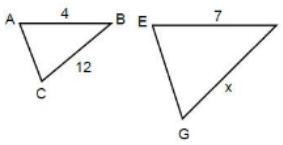
2) Dilations:
   a) Draw a dilation with k = 2



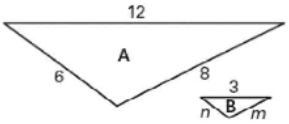
   b) Determine the scale factor, k = ____



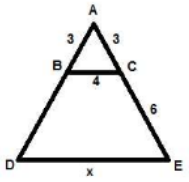
3) Find the length of the missing side(s).
   a)



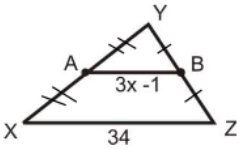
   b)



   c)

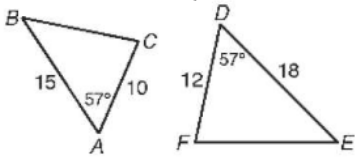


   d)

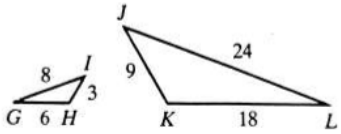


4) Determine if the following triangles are similar. If so, give the postulate and similarity statement.

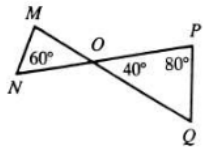
a) ΔABC ~ _____ by_____



b) ΔGHI ~ _____ by_____



c) ΔMNO ~ _____ by_____



5) If a 42.9 ft tall flagpole casts a 253.1 ft long shadow, then how long is the shadow that a 6.2 ft. tall woman casts?

Ratio of Sides

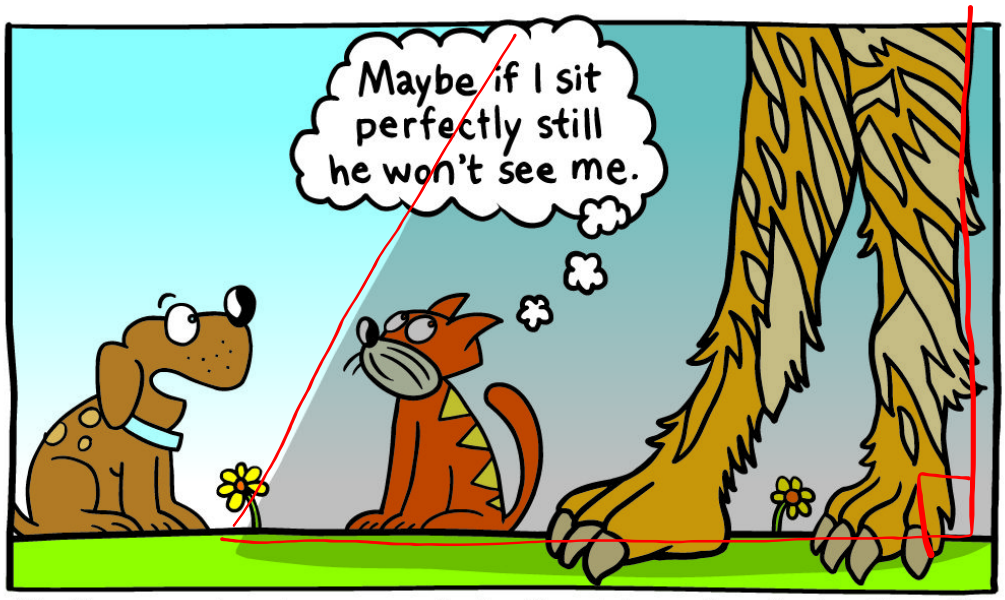
$A:B$, or k

Ratio of areas

$A^2:B^2$, or k^2

Ratio of volumes

$A^3:B^3$, or k^3



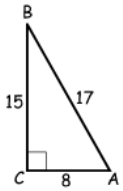
"Let's use shadows and similar triangles to indirectly measure the height of the giant hyena standing right behind you."

GSE Geometry 2- Similarity and Right Triangles Review

SOHCAHTOA:

6) a) Find the 3 trig ratios from Angle A and Angle B.

b) How do the ratios compare for the two angles?



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7) **Draw ΔCAT where ∠ATC = 90°, CA = 53, and CT = 28.**

a) What is the length of AT?

b) What is sin C? c) What is tan A?

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8) **Draw ΔABC where ∠B = 90° and** $\sin A = \frac{12}{20}$.

a) What is the length of AB?

b) What is tan A? c) What is cos A?

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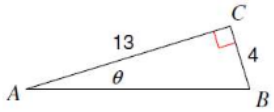
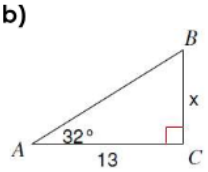
9) Solve for the missing side or angle using Trig Ratios (sin, cos, tan).

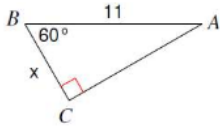
a)



b)



c)



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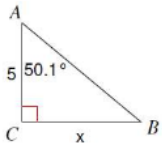
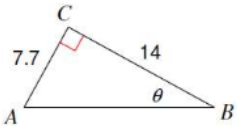
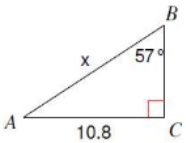


e)



f)



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10) An 8 foot ladder is leaning against a wall so that the base is 5 feet from the base of the wall. What angle does the ladder make with the ground? Round to the nearest tenth.

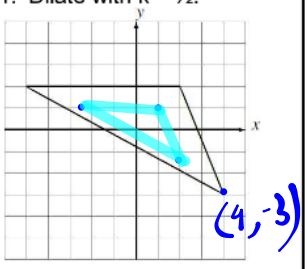
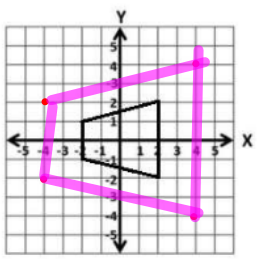
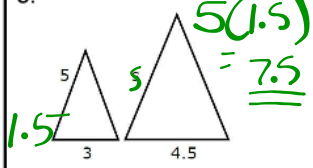
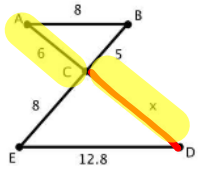
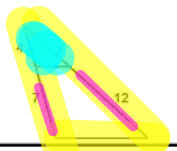
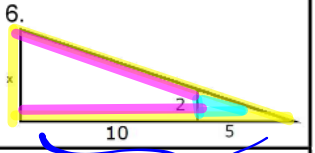
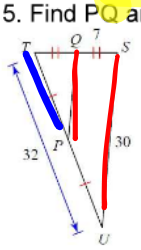
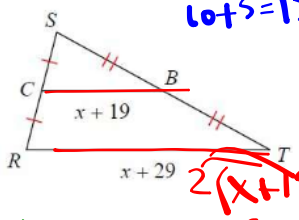
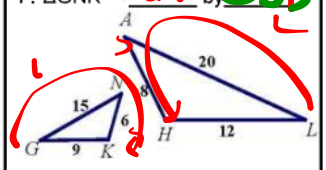
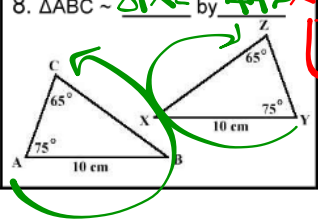
11) A surveyor is standing 25 ft from a building and is looking at the top with an angle of elevation of 65°. If his eye height is 6 ft, how tall is the building? Round to the nearest tenth.

12) A kite is being flown using 150 yards of string. The kite has an angle of elevation with the ground of 65 degrees. How high above the ground is the kite?

Review Similarity and Right Triangles

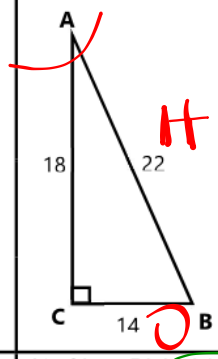
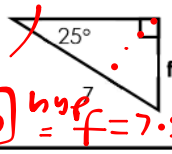
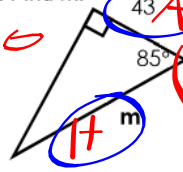
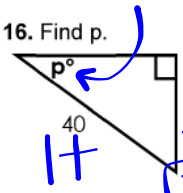
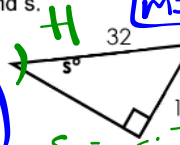
Name: _____ Date: _____

Use the following to review for you test. Work the Practice Problems on a separate sheet of paper.

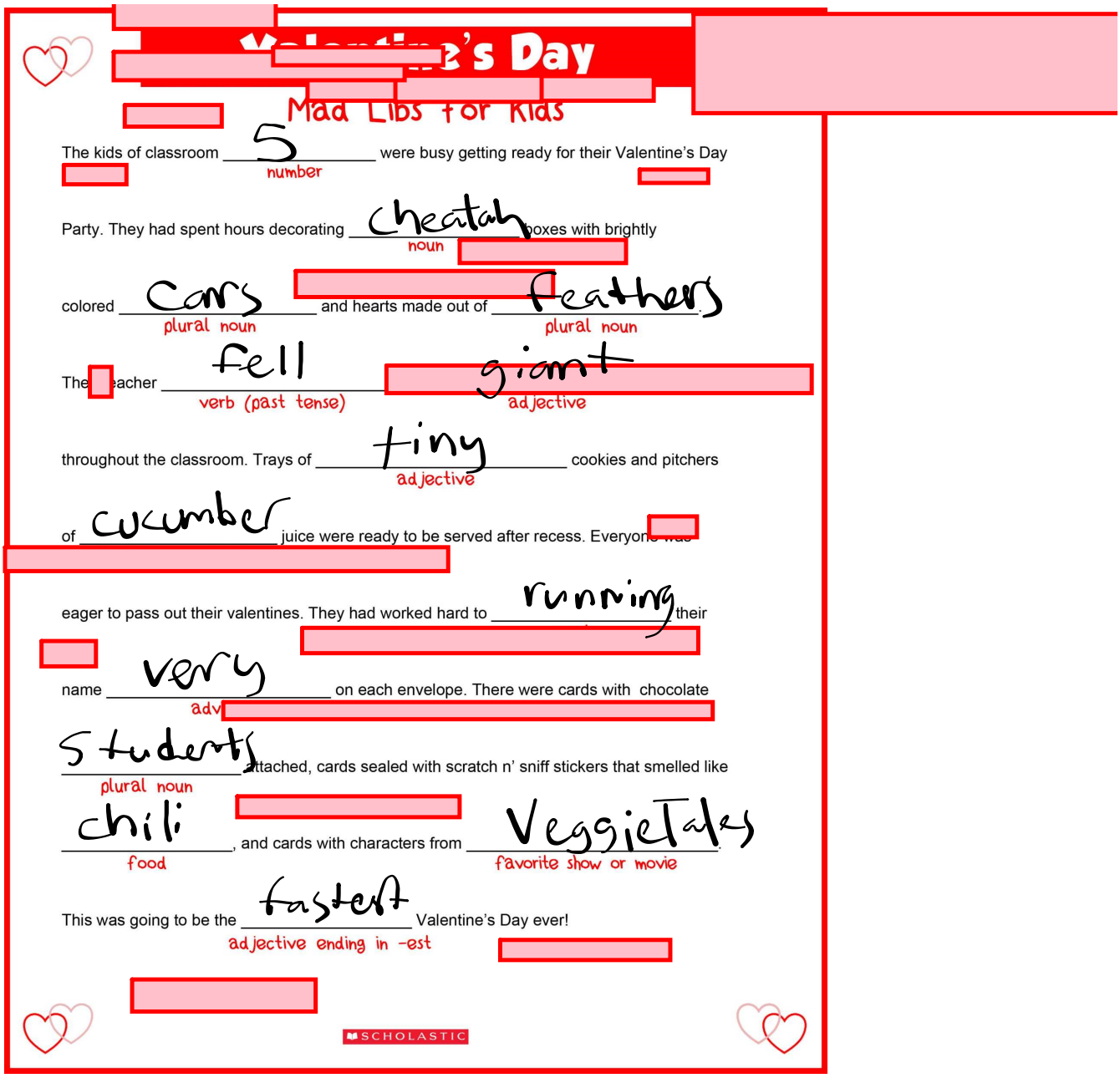
What you need to know & be able to do	Things to remember		
A. Perform a dilation with a given scale factor	When the center of dilation is the origin, you can multiply each coordinate of the original figure, or pre- image, by the scale factor to find the coordinates of the dilated figure, or image.	1. Dilate with k = ½.  (4, -3)	2. Dilate with k = 2. 
B. Find the missing side for similar figures.	Set up a proportion by matching up the corresponding sides. Then, solve for x. $\frac{4.5}{3} =$	3.  $5(1.5) = 7.5$	4.  $\frac{6}{x} = \frac{5}{8}$, 9.6, $\frac{5x}{5} = \frac{48}{5}$, $\frac{6}{5} = 1.2$
	$\frac{7}{12} = \frac{4}{x}$, $7x = 48$, $x = 6.9$	5. 	6.  $\frac{5}{2} = \frac{15}{x}$, $x = 6$, $10 + 5 = 15$, $x = 9.6$
C. Midsegment Theorem	The segment connecting the midpoints of two sides of the triangle is parallel to the third side and 1/2 the length of the third side.	5. Find PQ and TP  $PQ = 15$, $TP = 16$	6. Solve for x.  $2(x+19) = (x+29)$, $2x+38 = x+29$, $x = -9$
D. Determine if 2 triangles are similar, and write the similarity statement.	Remember the 3 ways that you can do this: AA, SAS, SSS	7. $\Delta GNK \sim \Delta LAH$ by SSS  $\frac{6}{8} = \frac{9}{12} = \frac{15}{20}$, $\frac{3}{4} = .75$	8. $\Delta ABC \sim \Delta YXZ$ by AA 

Review

Similarity and Right Triangles

E. Find sin, cos, and tan ratios	Just find the fraction using SOHCAHTOA		9. Find sin A. 10. Find tan B. 11. Find cos B. 12. Find tan A.
F. Know the relationship between the ratios for complementary angles.	$\sin\theta = \cos(90-\theta)$ $\cos\theta = \sin(90-\theta)$ $\tan\theta = \frac{1}{\tan(90-\theta)}$	13. Given Right ΔABC and $\sin A = 5/13$, find $\sin(90-A)$ *and* $\cos(90-\theta)$.	
G. Use trig to find a missing side measure	Set up the ratio and then use your calculator. If the variable is on the top, multiply. If the variable is on the bottom, divide.	14. Find f. 	15. Find m. 
H. Use trig to find a missing angle measure	Tap the trig button twice to get the INVERSE then type in the ratio.	16. Find p. 	17. Find s. 
I. Trig Word Problems	Draw the picture. Label the sides. Set up the ratio, and solve.	18. From 25 feet away from the base of a building, the angle of elevation from the ground to the top of a building is measured to be 38°. How tall is the building?	
		19. A kite is 35 feet in the air and the string forms an angle of 62° with the ground. How long is the string?	

If I was principal of my school, I'd put nerf® blaster (toys) and acoustic guitar (musical instruments) in every phone (noun) and have the cafeteria serve brownies (dessert) and popcorn (snack food) for lunch. We would have "falling and Tell" every day, where students can bring snakes (animals) and Pencils (nouns) to share in class. Students would give teachers homework, like 33 (number) page book reports about water bottles (nouns) and 500 (number) math problems. Recess would last for 18 (number) hours, and instead of buses, I'd have Toyota Prius (vehicles) and Chickens (animals) take the kids to and from school.



Valentine's Day

Mad Libs for Kids

The kids of classroom ___5___ were busy getting ready for their Valentine's Day
number

Party. They had spent hours decorating ___cheetah___ boxes with brightly
noun

colored ___cars___ and hearts made out of ___feathers___.
plural noun plural noun

The teacher ___fell___ ___giant___
verb (past tense) adjective

throughout the classroom. Trays of ___tiny___ cookies and pitchers
adjective

of ___cucumber___ juice were ready to be served after recess. Everyone was

eager to pass out their valentines. They had worked hard to ___running___ their

name ___very___ on each envelope. There were cards with chocolate
adv

___students___ attached, cards sealed with scratch n' sniff stickers that smelled like
plural noun

___chili___, and cards with characters from ___VeggieTales___.
food favorite show or movie

This was going to be the ___fastest___ Valentine's Day ever!
adjective ending in -est

SCHOLASTIC

GSE Geometry 2- Similarity and Right Triangles Review

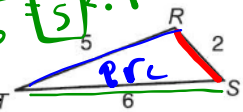
Name: _____ Date: _____

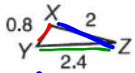
Unit 2 Test Review

Similar Triangles:

1) In the figure, $\Delta RST \sim \Delta XYZ$.

a) Find the scale factor of ΔRST to ΔXYZ.

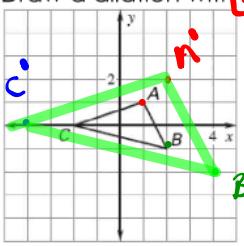




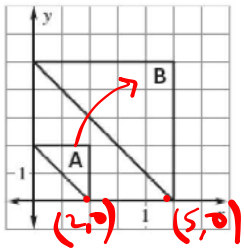
b) Find the perimeter of both triangles. What is the ratio of the perimeters of the 2 triangles?

2) Dilations:

a) Draw a dilation with k = 2

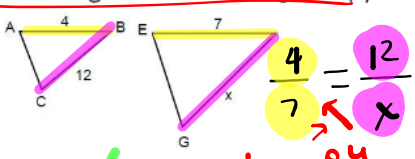


b) Determine the scale factor, k = ____

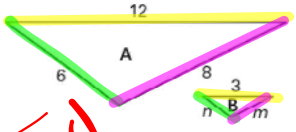


3) Find the length of the missing side(s).

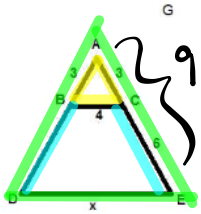
a)



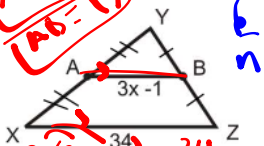
b)



c)

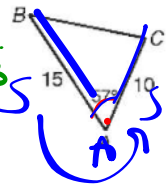


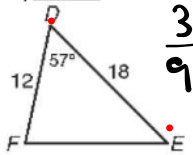
d)



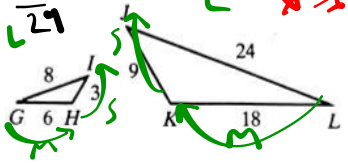
4) Determine if the following triangles are similar. If so, give the postulate and similarity statement.

a) $\Delta ABC \sim$ _____ by _____

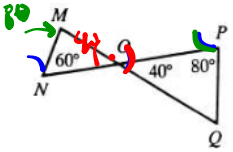




b) $\Delta GHI \sim$ _____ by _____



c) $\Delta MNO \sim$ _____ by _____



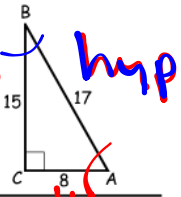
5) If a ~~42.9 ft~~ tall flagpole casts a ~~253.1 ft~~ long shadow, then how long is the shadow that a ~~6.2 ft~~ tall woman casts?

GSE Geometry 2- Similarity and Right Triangles Review

SOHCAHTOA:

6) a) Find the 3 trig ratios from Angle A and Angle B.

b) How do the ratios compare for the two angles?



7) **Draw ΔCAT where ∠ATC = 90°, CA = 53, and CT = 28.**

a) What is the length of AT?

b) What is sin C?

c) What is tan A?

8) **Draw ΔABC where ∠B = 90° and sin A = $\frac{12}{20}$**

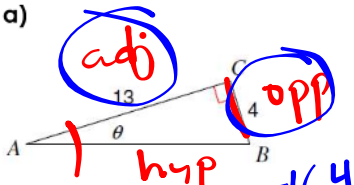
a) What is the length of AB?

b) What is tan A?

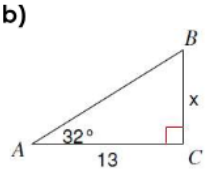
c) What is cos A?

9) Solve for the missing side or angle using Trig Ratios (sin, cos, tan).

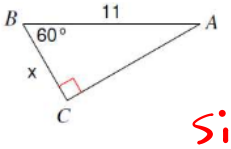
a)



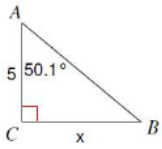
b)



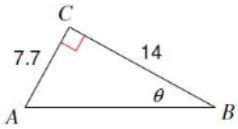
c)



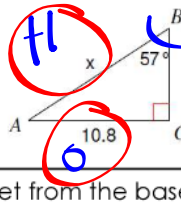
d)



e)

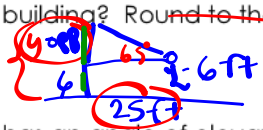


f)



10) An 8 foot ladder is leaning against a wall so that the base is 5 feet from the base of the wall. What angle does the ladder make with the ground? Round to the nearest tenth.

11) A surveyor is standing 25 ft from a building and is looking at the top with an angle of elevation of 65°. If his eye height is 6 ft, how tall is the building? Round to the nearest tenth.



12) A kite is being flown using 150 yards of string. The kite has an angle of elevation with the ground of 65 degrees. How high above the ground is the kite?