

Name \_\_\_\_\_

Period \_\_\_\_\_

Geometry – Mod 11 Review

1. Solve for  $x$ :  $\frac{3}{4} = \frac{x}{24}$

- (A) 32  
(C) 12

(B) 18  
(D) 6

$4x = 3 \cdot 24$   
 $4x = 72$   
 $x = 18$

4. If  $\triangle ABC \sim \triangle LMN$ ,  $AB = 18$ ,  $BC = 12$ ,  $LN = 9$ , and  $LM = 6$ , find the scale factor of  $\triangle ABC$  to  $\triangle LMN$ .

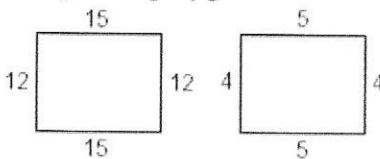
- (A) 9:2  
(C) 3:2

(B) 3:1  
(D) 2:1

$\frac{AB}{LM} = \frac{AC}{LN} = \frac{BC}{MN}$   
 $\frac{18}{6} = 3$

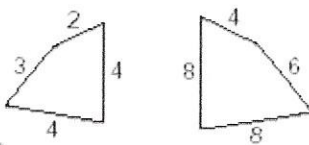
2. Which pair of polygons is definitely *not* similar?

A.



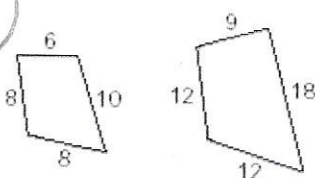
$\frac{12}{4} = \frac{15}{5}$   
 $3 = 3$

B.



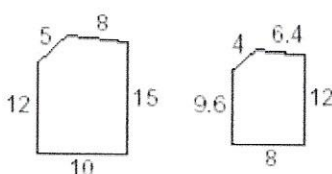
$\frac{8}{4} = \frac{4}{2} = \frac{6}{3}$   
 $2 = 2$

C.



$\frac{18}{10} \neq \frac{9}{8} = \frac{12}{8}$   
?

D.



$\frac{5}{4} \neq \frac{12}{9.6} = \frac{15}{12} = \frac{10}{8}$   
 $\frac{5}{4}$

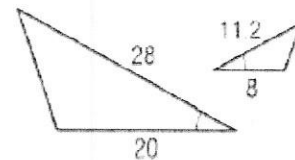
5. If  $\triangle ABR \sim \triangle LGW$ , complete the following proportions:

a.  $\frac{AB}{LG} = \frac{AR}{LW}$

b.  $\frac{AB}{BR} = \frac{LG}{GW}$

c.  $\frac{LW}{AR} = \frac{LG}{AB}$

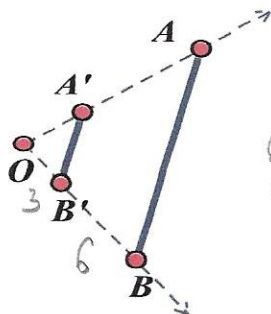
6. Name the property that can be used to prove that these triangles are similar.



$\frac{20}{8} = \frac{28}{11.2}$   
 $2.5 = 2.5$

- (A) AA Similarity  
(B) SSS Similarity  
(C) SSA Similarity  
(D) SAS Similarity

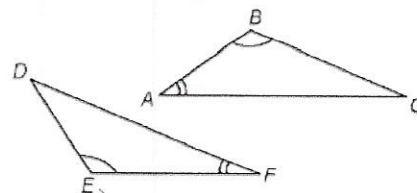
3. If  $OB = 3$  and  $B'B = 6$ , find the scale factor of the dilation.



$\frac{OB'}{OB} = \frac{9}{3} = 3$

- (A) 2  
(B) 1/2  
(C) 3  
(D) 1/3

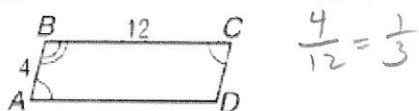
7. Determine if the triangles below are similar.



- (A) yes,  $\triangle EDF \sim \triangle BCA$  by AA Similarity  
(B) yes,  $\triangle EDF \sim \triangle ABC$  by AA Similarity  
(C) yes,  $\triangle EDF \sim \triangle BCA$  by ASA Similarity  
(D) Not enough info to determine similarity

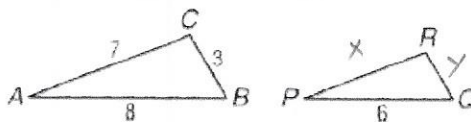
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8. Find the polygon that is similar to  $ABCD$ .



- (A) (B) (C) (D)

8. If  $\triangle ABC \sim \triangle PQR$ , find the perimeter of  $\triangle PQR$ .



- (A) 12 (B) 14.5  
(C) 13.5 (D) 16

$$\frac{8}{6} = \frac{7}{x}$$

$$8x = 42$$

$$x = 5.25$$

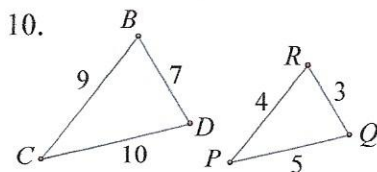
$$\frac{8}{6} = \frac{3}{y}$$

$$8y = 18$$

$$y = 2.25$$

$$6 + 2.25 + 5.25 = 13.5$$

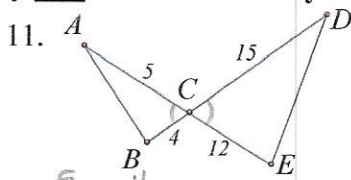
For Problems 10-12, determine if the triangles are similar. If they are similar, state the property that proves similarity and write a similarity statement.



Similar: yes or no

If similar  
Property \_\_\_\_\_

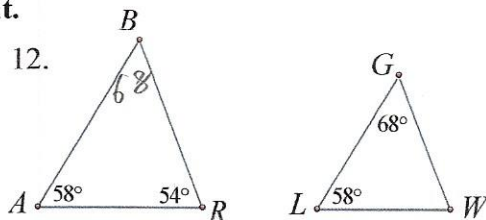
$\triangle ABC \sim \triangle$  \_\_\_\_\_



Similar: yes or no

If similar  
Property SAS

$\triangle ABC \sim \triangle$  DEC



Similar: yes or no

If similar  
Property AA

$\triangle ABR \sim \triangle$  LGW

For Problems 13-15, use the diagram at right, in which  $ABCDE \sim VWXYZ$

13. Find the scale factor of  $VWXYZ$  to  $ABCDE$ .

$$\frac{12}{4} = 3$$

14. If  $m\angle B = 132^\circ$ , find  $m\angle W$ .

$$132^\circ$$

15. Find the values of  $r$ ,  $s$ ,  $t$ , and  $u$ .

$$\frac{4}{12} = \frac{u}{15}$$

$$12u = 60$$

$$u = 5$$

$$\frac{4}{12} = \frac{3}{r}$$

$$4r = 36$$

$$r = 9$$

$$\frac{4}{12} = \frac{4.5}{s}$$

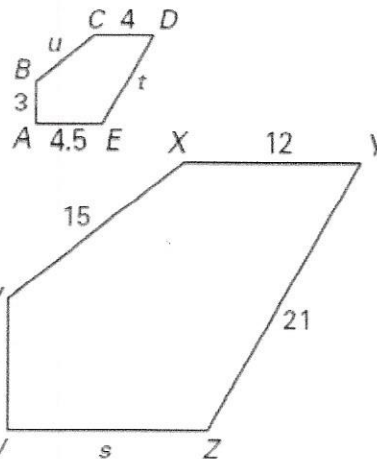
$$4s = 54$$

$$s = 13.5$$

$$\frac{4}{12} = \frac{t}{21}$$

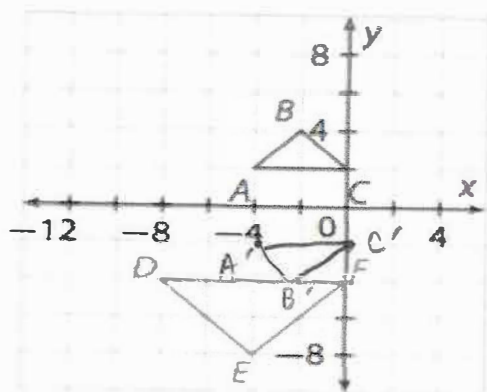
$$12t = 84$$

$$t = 7$$



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16. Describe, in words, the sequence of similarity transformations that map  $\triangle ABC$  to  $\triangle DEF$ . Then write the coordinate notations for the transformations.

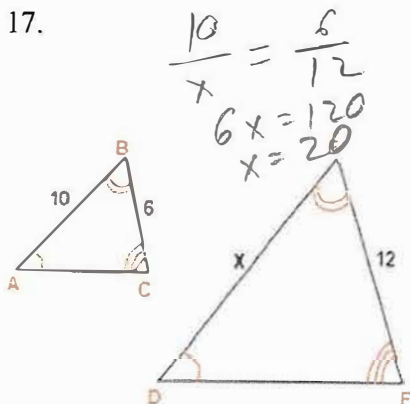


reflect over  $x$ -axis  
 $(x, y) \rightarrow (x, -y)$

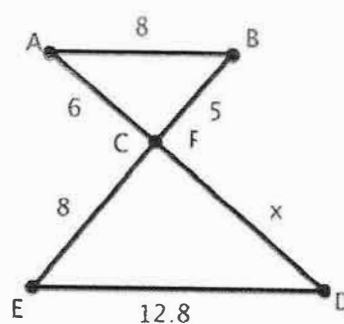
dilate, scale factor 2  
 $(x, y) \rightarrow (2x, 2y)$

For Problems 17-18, solve for  $x$ .

17.



18.

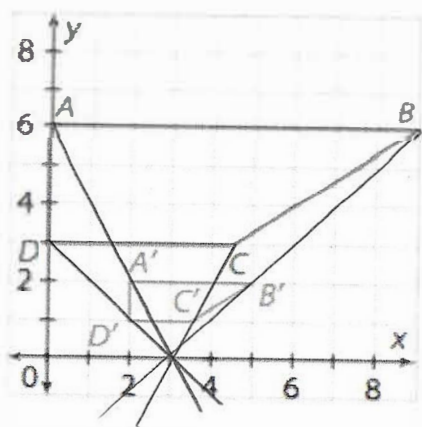


$$\frac{12.8}{8} = \frac{8}{5} = \frac{x}{6}$$

$$48 = 5x$$

$$9.6 = x$$

19. Find the scale factor and the coordinates of the center of dilation.



scale factor =  $\frac{1}{3}$   
 center  $(3, 0)$

20. Would the following transformations result in similar figures?

	Yes	No
$(x, y) \rightarrow (2x, 2y)$	XX	
$(x, y) \rightarrow (x + 4, 2y)$		XX
$(x, y) \rightarrow (2x, \frac{2}{3}y)$		XX
$(x, y) \rightarrow (\frac{2}{3}x, \frac{2}{3}y)$	XX	