

**Geometry**

**Unit Two – G.SRT.1-3 Review (IC/HW7)**

For each multiple choice question, please circle your answer.

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Period: \_\_\_\_\_

1. Which of the following is a dilation?

A)  $T(x, y) \rightarrow (x - 4, y + 3)$

B)  $T(x, y) \rightarrow (y, x)$

**C)  $T(x, y) \rightarrow (2x, 2y)$**

D)  $T(x, y) \rightarrow (5x, 3y)$

2. Which of the following scale factors is a reduction?

A) 1 : 3

B) 0.5 : 0.75

**C) 3 : 2**

D) 1 : 1.0055

3. Which of the following scale factors is an enlargement?

A) 500 : 50

**B) 0.01 : 0.1**

C) 7 : 3.5

D) 0.1 : 0.01

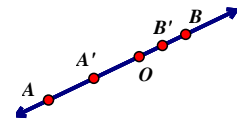
4. Determine the scale factor that best suits the provided diagram (O is the center of dilation).

A) 2

**B)  $\frac{1}{2}$**

C)  $\frac{1}{3}$

D) - 1



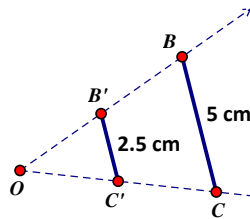
5. Determine the scale factor of the given dilation from point O?

A) 1 : 2

**B) 2 : 1**

C) 2 : 5

D) 5 : 2



Preimage: image  
5 : 2.5 → 2 : 1

6. Determine the scale factor of the given dilation from point O?

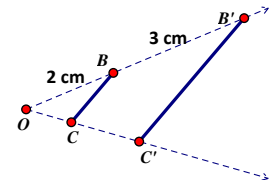
A) 2 : 3

B) 1 : 1.5

**C) 2 : 5**

D) 3 : 2

2:5  
\*Use total distance from center of dilation



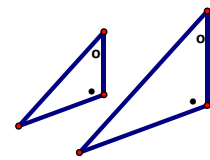
7. Which of the following would be the criterion for establishing similarity in the two triangles?

**A) AA~**

B) SAS~

C) SSS~

D) Not enough info or not similar



8. Which of the following would be the criterion for establishing similarity in the two triangles?

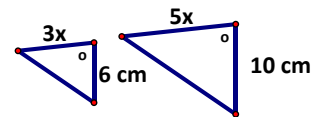
A) AA~

**B) SAS~**

C) SSS~

D) Not enough info or not similar

$\frac{3x}{5x} = \frac{6}{10}$



9. Which of the following would be the criterion for establishing similarity in the two triangles?

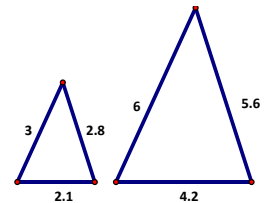
A) AA~

B) SAS~

**C) SSS~**

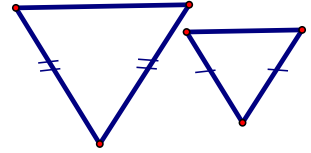
D) Not enough info or not similar

$\frac{2.8}{5.6} = \frac{2.1}{4.2} = \frac{3}{6}$



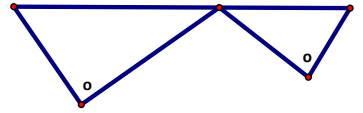
10. Which of the following would be the criterion for establishing similarity in the two triangles?

- A) AA~
- B) SAS~
- C) SSS~
- D) Not enough info or not similar**



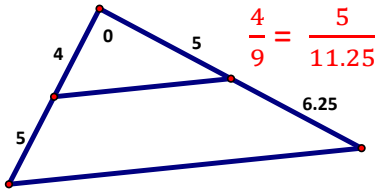
11. Which of the following would be the criterion for establishing similarity in the two triangles?

- A) AA~
- B) SAS~
- C) SSS~
- D) Not enough info or not similar**

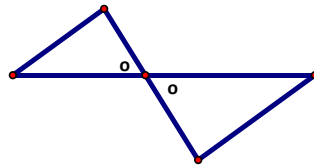


12. Are the following pairs of triangles similar? If they are, then name their similarity criteria. (SSS~, SAS~, AA~)

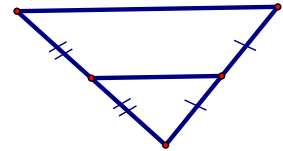
a) **Yes** / No SAS~



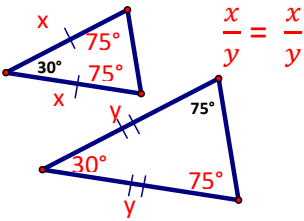
b) Yes / **No** \_\_\_\_\_



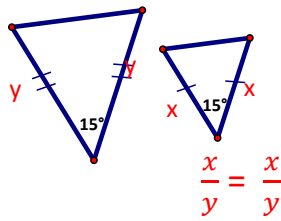
c) **Yes** / No SAS~  $\frac{x}{2x} = \frac{y}{2y}$



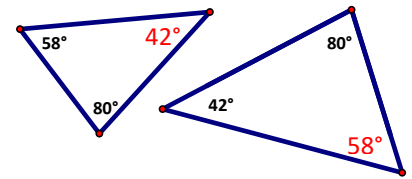
d) **Yes** / No SAS~/AA~



e) **Yes** / No SAS~/AA~



f) **Yes** / No AA~



13. Determine the point.



- a)  $D_{H,4}(B) = (\underline{F})$  1)  $d = 1$  2)  $d' = 4$
- b)  $D_{H,3}(H) = (\underline{H})$  1)  $d = 0$  2)  $d' = 0$
- c)  $D_{H,-2}(G) = (\underline{O})$  1)  $d = 1$  2)  $d' = -2$  Opp way
- d)  $D_{H,-\frac{1}{3}}(E) = (\underline{D})$  1)  $d = 9$  2)  $d' = -3$  Opp way
- e)  $D_{F,2}(\underline{O}) = (H)$  1)  $d = 2$  2)  $d' = 4$
- f)  $D_{C,\frac{1}{2}}(\underline{O}) = (F)$  1)  $d = 4$  2)  $d' = 2$
- g)  $D_{D,3}(\underline{B}) = (E)$  1)  $d = 4$  2)  $d' = 12$  Opp way
- h)  $D_{D,\frac{3}{2}}(G) = (\underline{H})$  1)  $d = 2$  2)  $d' = 3$
- i)  $D_{G,\frac{2}{3}}(O) = (\underline{B})$  1)  $d = 3$  2)  $d' = 2$

14. Graph the following dilations:

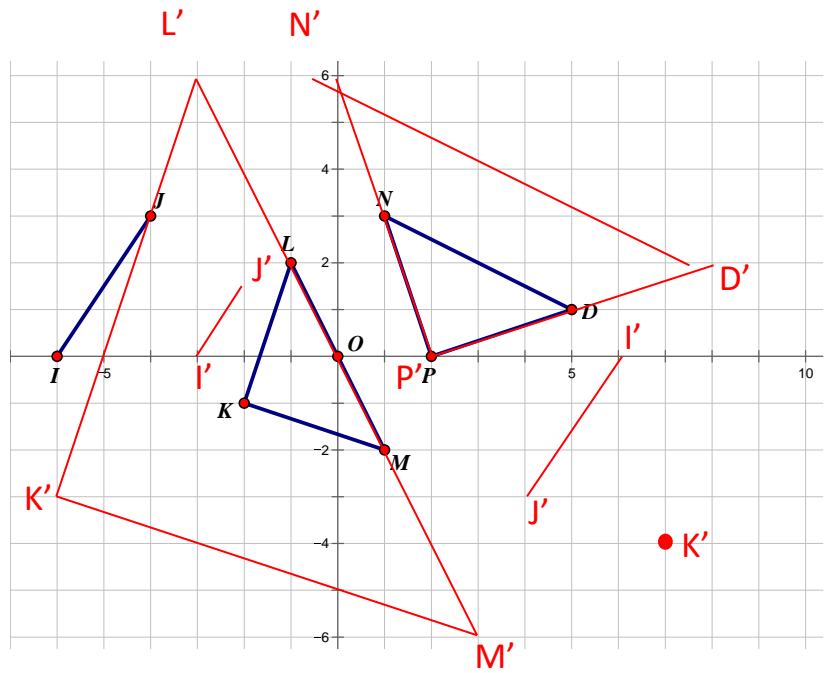
a)  $D_{O, \frac{1}{2}}(\overline{IJ})$

b)  $D_{O, 3}(\triangle LMK)$

c)  $D_{P, 2}(\triangle PND)$  (notice the center location)

d)  $D_{O, -1}(\overline{IJ})$

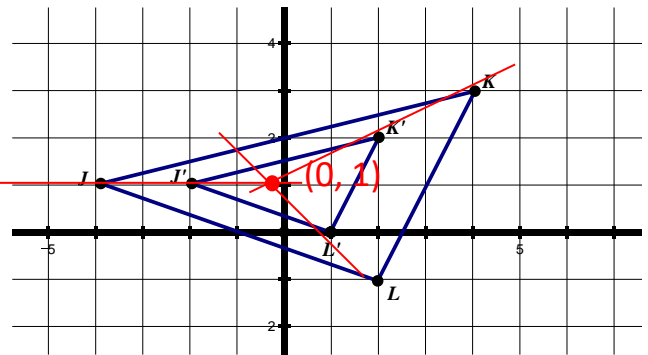
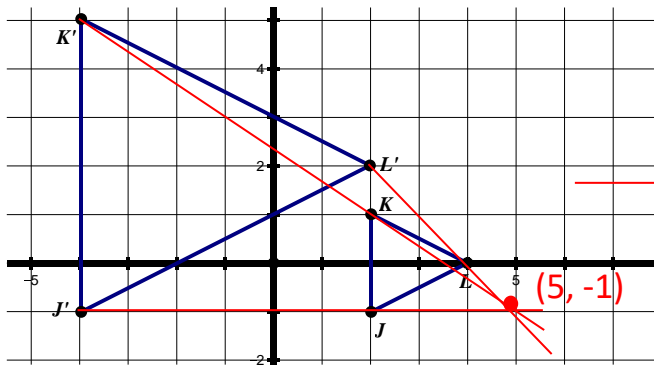
e)  $D_{M, -2}(K)$  (notice the center location)



15. Work backwards to find the center of dilation, and also determine the scale factor.

a) Center ( 5 , -1 ) Scale Factor = 3

b) Center ( 0 , 1 ) Scale Factor = 1/2



16. Dilate the following. (O is the origin).

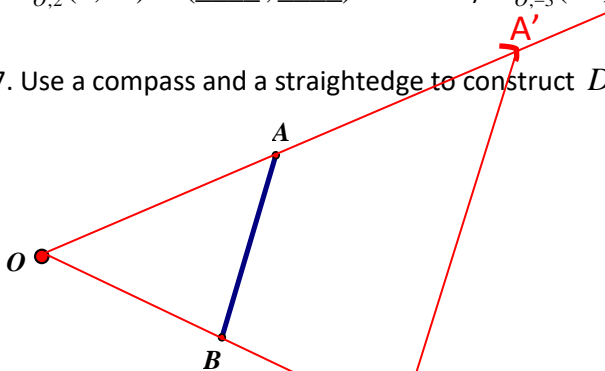
a)  $D_{O, 2}(2, -1) = (\underline{4}, \underline{-2})$

b)  $D_{O, -3}(-2, 4) = (\underline{6}, \underline{-12})$

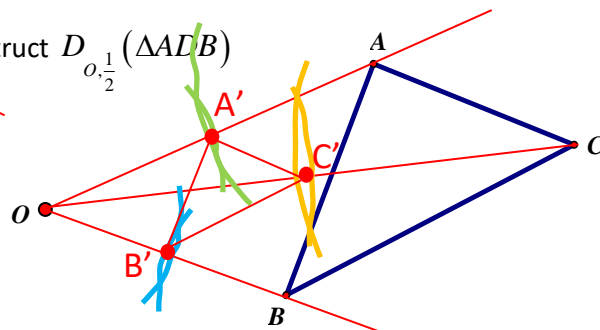
c)  $D_{O, -3}(\underline{-4}, \underline{7}) = (12, -21)$

17. Use a compass and a straightedge to construct  $D_{O, 2}(\overline{AB})$

*\*Work backwards\**



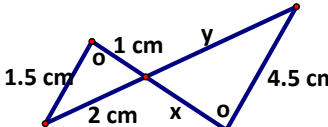
18. Use a compass and a straightedge to construct  $D_{O, \frac{1}{2}}(\triangle ADB)$



19. Given that  $\triangle NHG \sim \triangle JKL$ . Complete the following.

a)  $\angle G \cong \angle$  L      b)  $\frac{KL}{HG} = \frac{JK}{\boxed{NH}}$       c)  $\angle J \cong \angle$  N      d)  $\frac{\boxed{JL}}{NG} = \frac{KL}{HG}$

20. Solve for the missing information, given that the two triangles in each question are SIMILAR. (2 decimals)

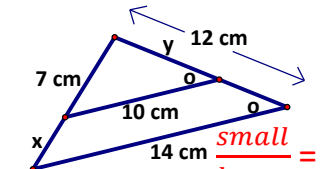
a) 

$$\frac{\text{small}}{\text{large}} = \frac{1.5}{4.5} = \frac{1}{3}$$

$$\frac{1.5}{4.5} = \frac{1}{x} \implies 1.5x = 4.5 \implies x = 3$$

$$\frac{1.5}{4.5} = \frac{2}{y} \implies 1.5y = 9 \implies y = 6$$

x = 3      y = 6

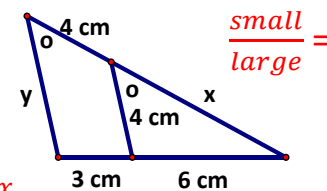
b) 

$$\frac{\text{small}}{\text{large}} = \frac{10}{14} = \frac{5}{7}$$

$$\frac{10}{14} = \frac{7}{7+x} \implies 70 + 10x = 98 \implies 10x = 28 \implies x = 2.8$$

$$\frac{10}{14} = \frac{y}{12} \implies 14y = 120 \implies y = 8.57$$

x = 2.8      y = 8.57

c) 

$$\frac{\text{small}}{\text{large}} = \frac{4}{6} = \frac{2}{3}$$

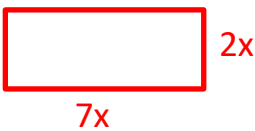
$$\frac{4}{6} = \frac{y}{x+4} \implies 4x + 16 = 6y \implies 4x = 6y - 16$$

$$\frac{4}{6} = \frac{4}{y} \implies 4y = 24 \implies y = 6$$

$$4x = 6(6) - 16 = 36 - 16 = 20 \implies x = 5$$

x = 5      y = 6

21. The area of a rectangle is  $504 \text{ cm}^2$ . If the length and the width are in a ratio of 7:2. Find the length and width.



$$7x(2x) = 504$$

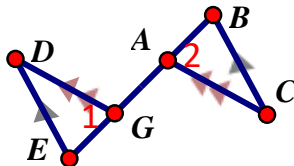
$$14x^2 = 504$$

$$x^2 = 36 \implies x = 6$$

**42cm and 12cm**

22. a) GIVEN:

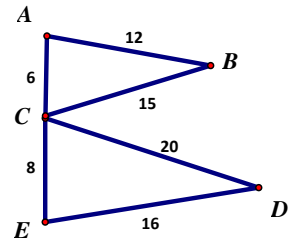
$$\overline{DE} \parallel \overline{CB} \text{ \& \ } \overline{DG} \parallel \overline{CA}$$



PROVE:

$$\triangle EDG \sim \triangle BCA$$

b) GIVEN: Diagram as Marked



PROVE:

$$\angle B \cong \angle D$$

STATEMENT	REASON
1) $\overline{DE} \parallel \overline{CB}$	1) Given
2) $\angle E \cong \angle B$	2) $\parallel$ lines $\rightarrow$ alt. int. $\angle$ 's $\cong$
3) $\overline{DG} \parallel \overline{CA}$	3) Given
4) $\angle 1 \cong \angle 2$	4) $\parallel$ lines $\rightarrow$ alt. ext. $\angle$ 's $\cong$
5) $\triangle EDG \sim \triangle BCA$	5) AA $\sim$

STATEMENT	REASON
1) $AC=6, AB=12, BC=15, CE=8, ED=16, CD=20$	1) Given
2) $\frac{AC}{CE} = \frac{AB}{ED} = \frac{BC}{CD} = \frac{3}{4}$	2) Corr. Ratios of sides
3) $\triangle ABC \sim \triangle CED$	3) SSS $\sim$
4) $\angle B \cong \angle D$	4) Def of $\sim \Delta$ 's