LESSON 8.7

NAME _____ DATE _____

Practice A

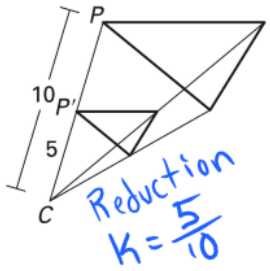
For use with pages 506–513

$\triangle ABC$ is mapped onto $\triangle A'B'C'$ by a dilation at D. Complete the statement.

1. $\triangle ABC$ is (congruent, similar) to $\triangle A'B'C'$.
2. If $\frac{DA}{DA'} = \frac{3}{5}$, then $\triangle A'B'C'$ is (larger, smaller) than $\triangle ABC$, and the dilation is (a reduction, an enlargement).
3. If $\frac{DB}{DB'} = \frac{3}{2}$, then $\triangle A'B'C'$ is (larger, smaller) than $\triangle ABC$, and the dilation is (a reduction, an enlargement).

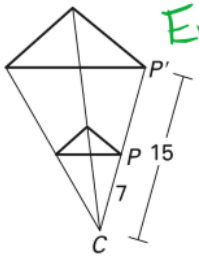
Identify the dilation and find its scale factor.

4.



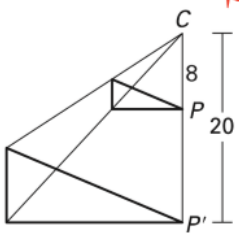
Reduction $k = \frac{5}{10}$

5.



Enlargement $k = \frac{15}{7}$

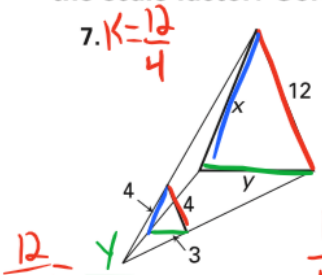
6.



Enlargement $k = \frac{20}{8}$

The larger polygon is an enlargement of the smaller polygon. What is the scale factor? Solve for the variables.

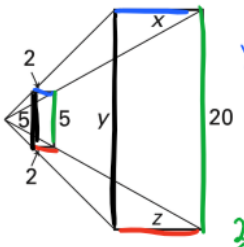
7. $k = \frac{12}{4}$



$\frac{12}{4} = \frac{y}{3}$, $y = 9$

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

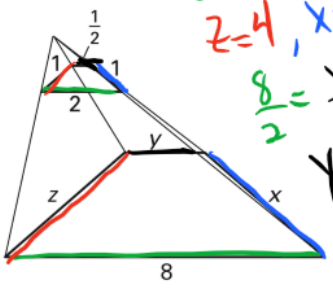
8. $\frac{20}{5} = \frac{x}{2}$, $x = 8$



$\frac{20}{5} = \frac{y}{11}$, $y = 20$

$\frac{20}{5} = \frac{z}{2}$, $z = 8$

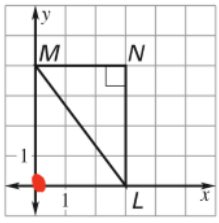
9. $\frac{8}{2} = \frac{z}{1}$, $z = 4$, $x = 1$



$\frac{8}{2} = \frac{y}{4}$, $y = 4$

Use the origin as the center of the dilation and the given scale factor to find the coordinates of the vertices of the image of the polygon.

10. $k = 2$

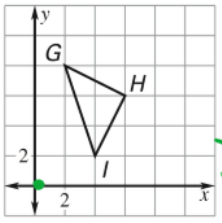


$M(0,4) \to M'(0,8)$

$N(3,4) \to N'(6,8)$

$L(3,0) \to L'(6,0)$

11. $k = \frac{1}{2}$



$G(2,8) \to G'(1,4)$

$H(6,6) \to H'(3,3)$

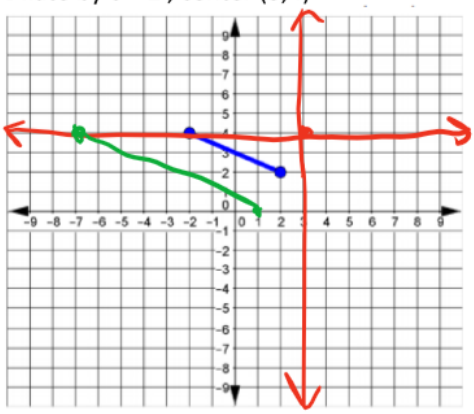
$I(4,2) \to I'(2,1)$

Lesson 8.7

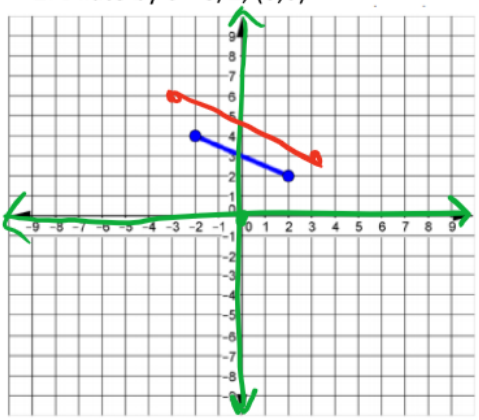
Dilation From A Point Not The Origin

Dilate the figure with given scale factor (c) and center.

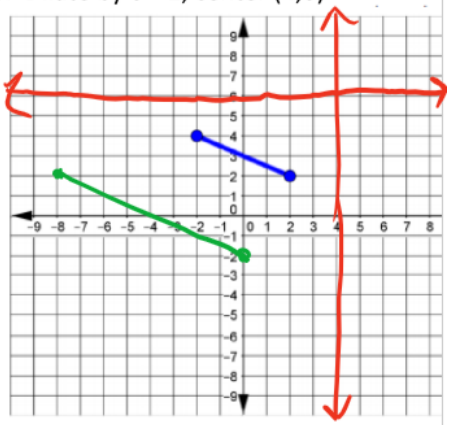
1. Dilate by c = 2 , center (3,4)



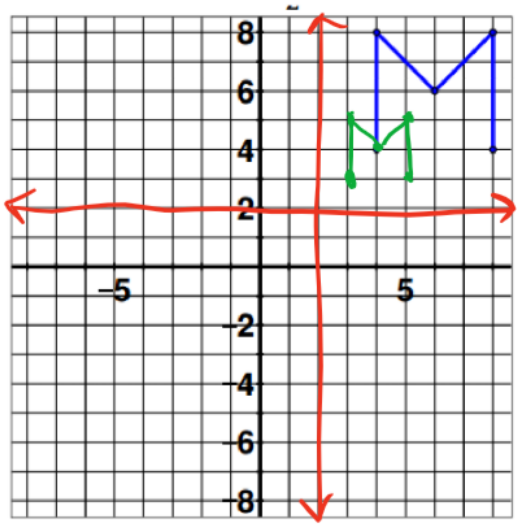
2. Dilate by c = 3/2, (0,0)



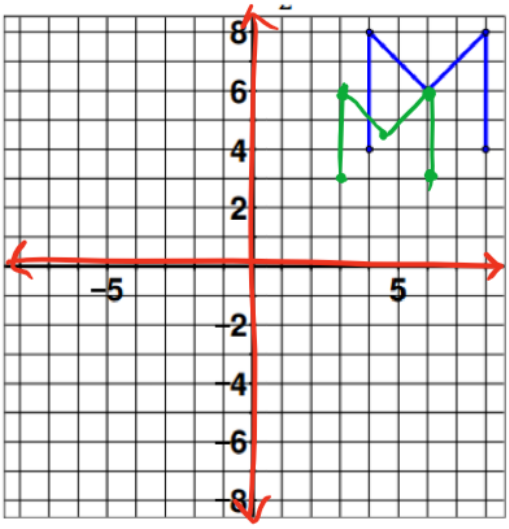
3. Dilate by c = 2, center (4,6)



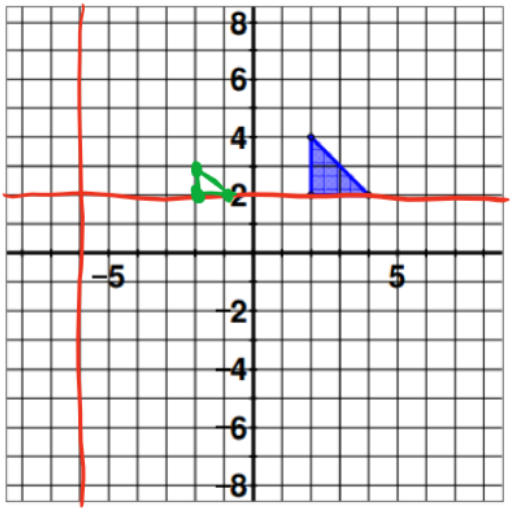
4. Dilate by c= 1/2 , center (2, 2)



5. Dilate by c = ¾, center (0,0)



6. Dilate by c = ½, center (-6,2)



7. Dilate by c = 3, center (6,4)