Geometry
Dilation

Name Key

Hour _____

Using a compass and a straight edge:

1. Dilate ΔBCD by a factor of 3 from center A.

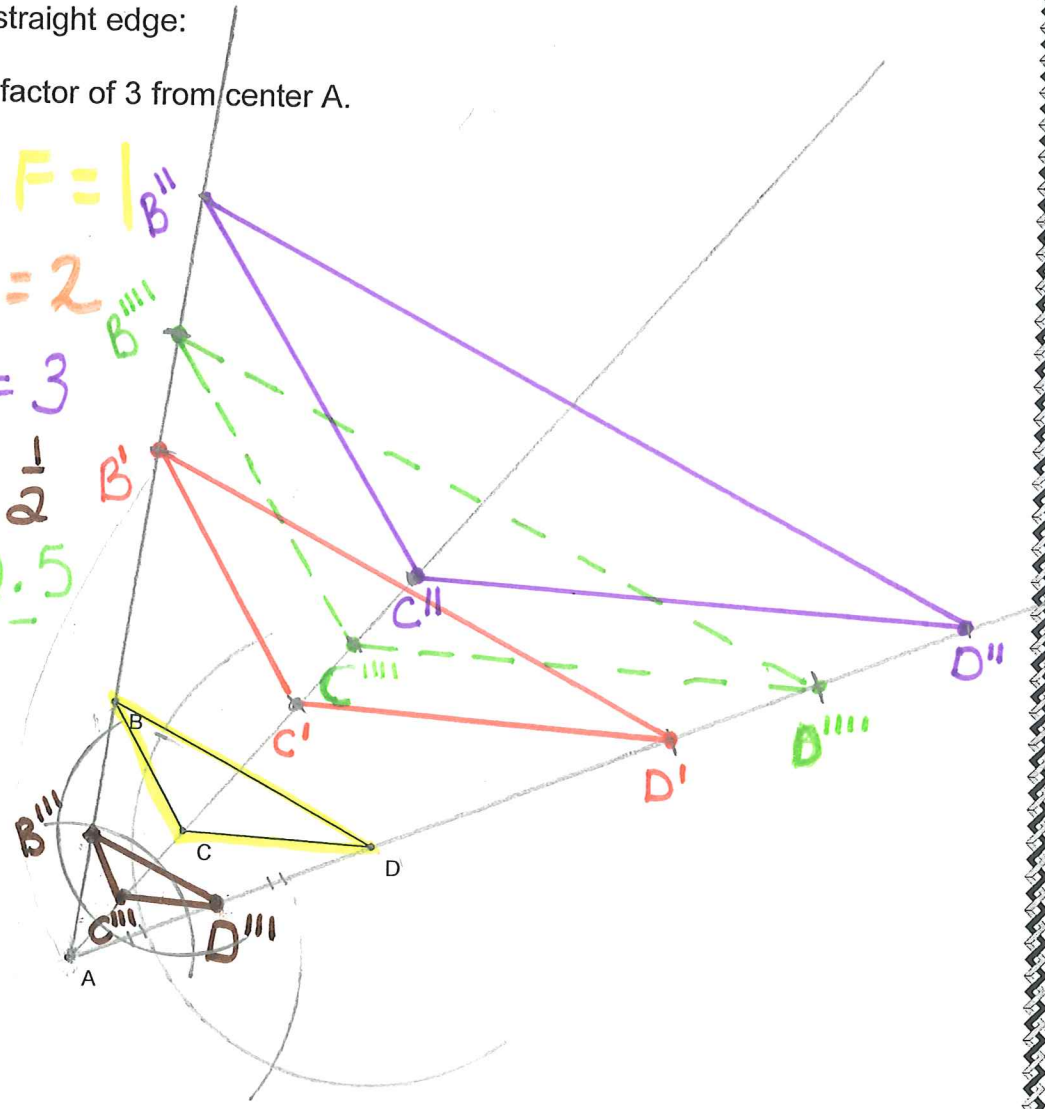
ΔBCD SF = 1

ΔBCD SF = 2

ΔBCD SF = 3

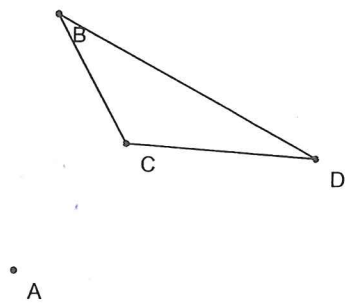
ΔBCD SF = $\frac{1}{2}$

ΔBCD SF = 2.5



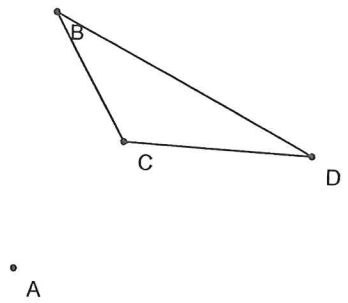
2. Dilate ΔBCD by a factor of 2.5 from center A.

Practice From Front



3. Dilate ΔBCD by a factor of 0.5 from center A.

Practice From Front

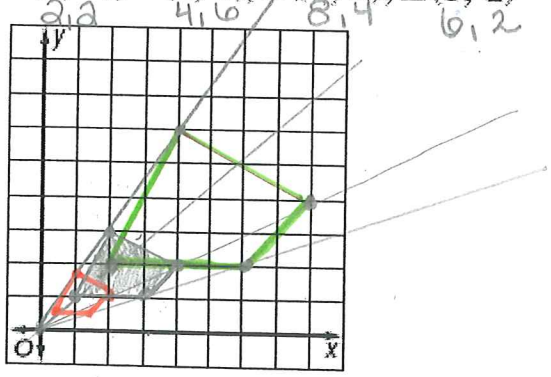


COORDINATE GEOMETRY Find the image of each polygon, given the vertices, after a dilation centered at the origin with a scale factor of 2. Then graph a dilation centered at the origin with a scale factor of $\frac{1}{2}$.

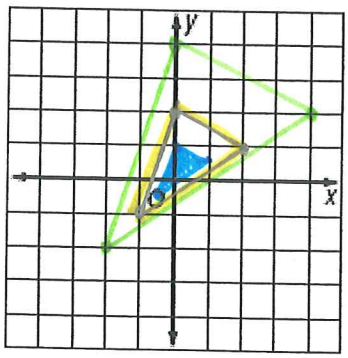
$(.5, \frac{1}{2})$ $(1, 1.5)$ $(2, 1)$ $(1.5, \frac{1}{2})$

$A(1, 1)$, $C(2, 3)$, $D(4, 2)$, $E(3, 1)$

2,2 4,6 8,4 6,2



$Q(-1, -1)$, $R(0, 2)$, $S(2, 1)$



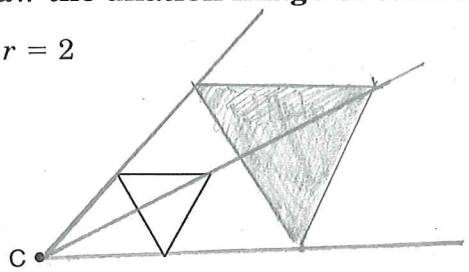
NAME Key DATE _____ PERIOD _____

9-5 Skills Practice

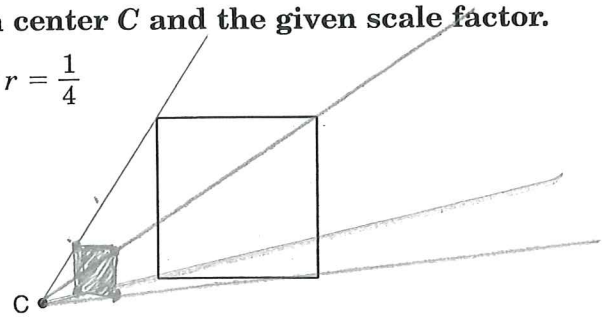
Dilations

Draw the dilation image of each figure with center C and the given scale factor.

1. $r = 2$



2. $r = \frac{1}{4}$



Find the measure of the dilation image $\overline{M'N'}$ or of the preimage $\overline{MN}$ using the given scale factor.

3. $MN = 3, r = 3$

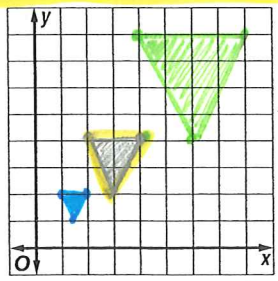
$M'N' = 9$

4. $M'N' = 7, r = 21$

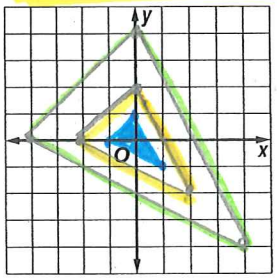
$MN = 1/3$

COORDINATE GEOMETRY Find the image of each polygon, given the vertices, after a dilation centered at the origin with a scale factor of 2. Then graph a dilation centered at the origin with a scale factor of $\frac{1}{2}$.

5. $J(2, 4), K(4, 4), P(3, 2)$

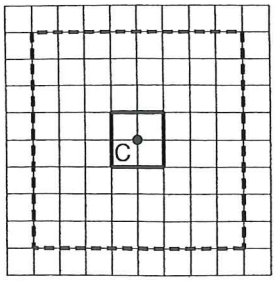


6. $D(-2, 0), G(0, 2), F(2, -2)$



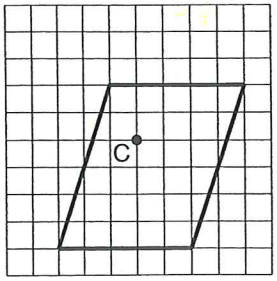
Determine the scale factor for each dilation with center C. Determine whether the dilation is an *enlargement*, *reduction*, or *congruence transformation*. The dashed figure is the dilation image.

7.



4, enlargement

8.



SF = 1

∴ ≅ Figures!!