NAME _____ DATE _____ PERIOD ____

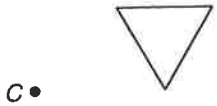
9-5

Skills Practice

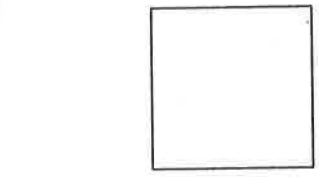
Dilations

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. $MN = 3, r = 3$

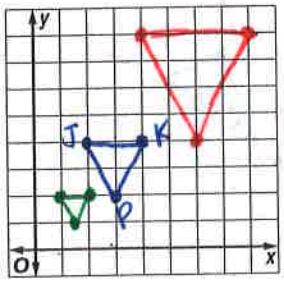
$M'N' = 9$

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

$MN = \frac{1}{3}$

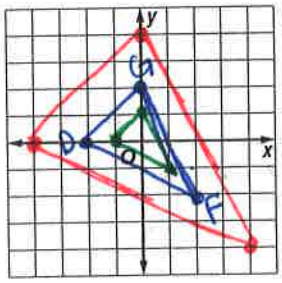
COORDINATE GEOMETRY Find the image of each polygon, given the vertices, after a dilation centered at the origin with a scale factor of 2. Then graph a dilation centered at the origin with a scale factor of $\frac{1}{2}$.

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



$r=2$
$J'(4,8)$
$K'(8,8)$
$P'(6,4)$
$r = \frac{1}{2}$
$J'(1,2)$
$K'(2,2)$
$P'(1.5,1)$

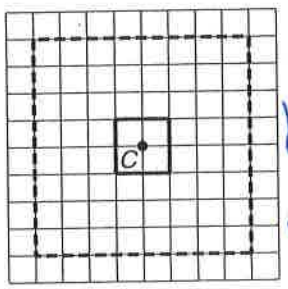
6. $D(-2, 0), G(0, 2), F(2, -2)$



$r=2$
$D'(-4,0)$
$G'(0,4)$
$F'(4,-4)$
$r = \frac{1}{2}$
$D'(-1,0)$
$F'(1,-1)$
$G'(0,1)$

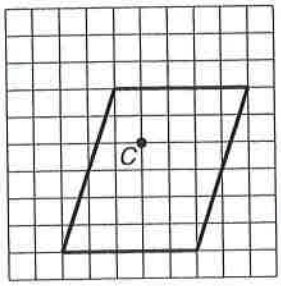
Determine the scale factor for each dilation with center C. Determine whether the dilation is an *enlargement*, *reduction*, or *congruence transformation*. The dashed figure is the dilation image.

7.



$r = 4$
enlargement

8.



$r = 1$
congruence transformation

Lesson 9-5

NAME _____ DATE _____ PERIOD ____

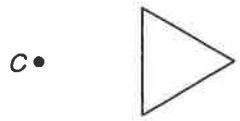
9-5

Practice

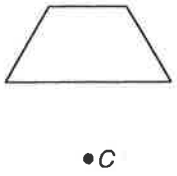
Dilations

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

1. $r = \frac{3}{2}$



2. $r = \frac{2}{3}$



Find the measure of the dilation image $\overline{A'T'}$ or of the preimage $\overline{AT}$ using the given scale factor.

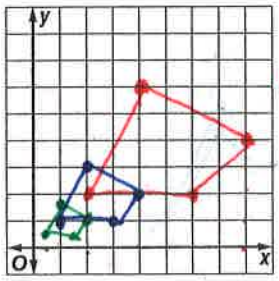
3. $AT = 15, r = \frac{3}{5}$ $A'T' = 9$

4. $AT = 30, r = -\frac{1}{6}$ $A'T' = 5$

5. $A'T' = 12, r = \frac{4}{3}$ $AT = 9$

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 $\frac{1}{2}$.

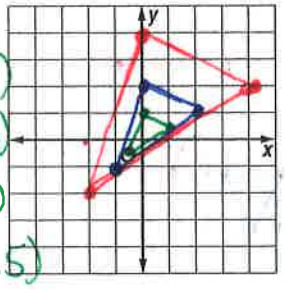
6. $A(1, 1), C(2, 3), D(4, 2), E(3, 1)$



$r = 2$
$A'(2,2)$
$C'(4,6)$
$D'(8,4)$
$E'(6,2)$

$r = 1/2$
$A''(1/2, 1/2)$
$C''(1, 1.5)$
$D''(2,1)$
$E''(1.5, .5)$

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

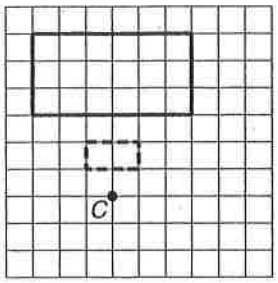


$r = 2$
$Q'(-2,-2)$
$R'(0,4)$
$S'(4,2)$

$r = 1/2$
$Q''(-1/2, -1/2)$
$R''(0, 1)$
$S''(1, 1/2)$

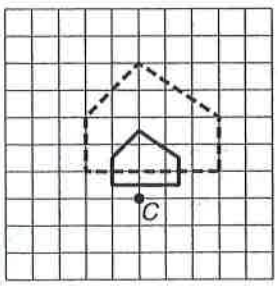
Determine the scale factor for each dilation with center C. Determine whether the dilation is an *enlargement*, *reduction*, or *congruence transformation*. The dotted figure is the dilation image.

8.



$\frac{1}{3}$ Reduction

9.



2 enlargement

10. **PHOTOGRAPHY** Estebe enlarged a 4-inch by 6-inch photograph by a factor of $\frac{5}{2}$. W are the new dimensions of the photograph? 10 in x 15in