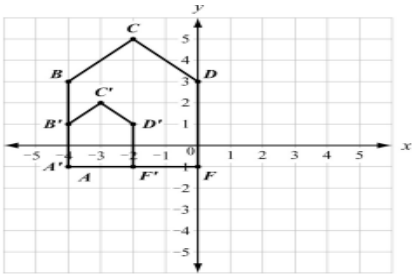
Homework 2.6 Dilations & Scale Factor

1. Figure A'B'C'D'F' is a dilation of figure ABCDF by a scale factor of $\frac{1}{2}$. The dilation is centered at (-4, -1).



Which statement is true?

(a) $\frac{AB}{A'B'} = \frac{B'C'}{BC}$

(b) $\frac{AB}{A'B'} = \frac{BC}{B'C'}$

(c) $\frac{AB}{A'B'} = \frac{BC}{D'F'}$

(d) $\frac{AB}{A'B'} = \frac{D'F'}{BC}$

2. Which transformation results in a figure that is similar to the original figure but has a greater area?

(a) a dilation of QRS by a scale factor of 0.25

(b) a dilation of QRS by a scale factor of 0.5

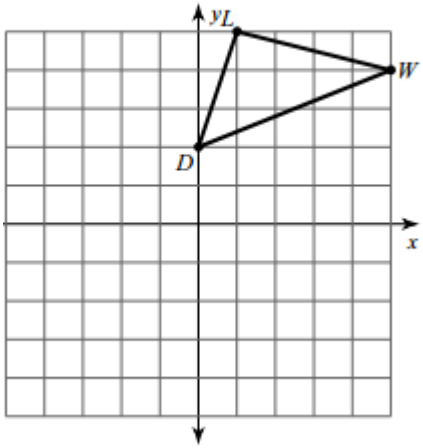
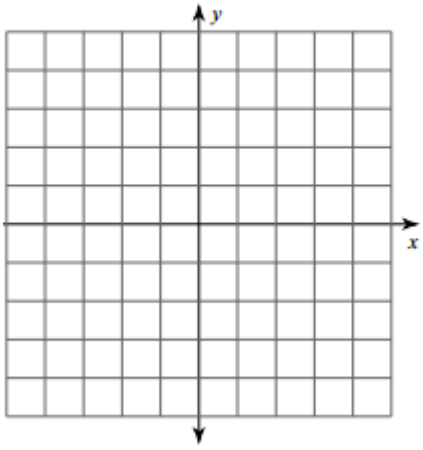
(c) a dilation of QRS by a scale factor of 1

(d) a dilation of QRS by a scale factor of 2

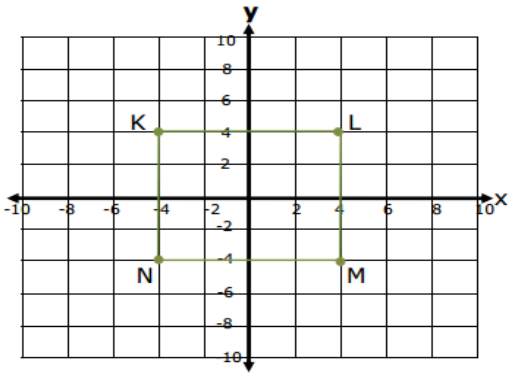
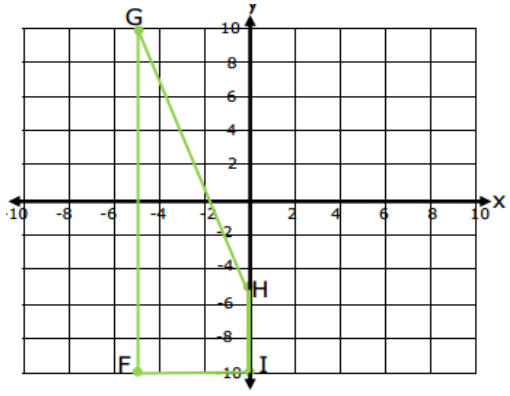
Write a rule to describe each transformation

3.	4.
$U(-2, -1), K(0, 2), F(2, -2)$ to $U'(-3, -1.5), K'(0, 3), F'(3, -3)$	$K(-1, -2), U(-2, 2), V(2, 2), Q(2, -1)$ to $K'(-2, -4), U'(-4, 4), V'(4, 4), Q'(4, -2)$

Graph the image of the figure using the transformation given.

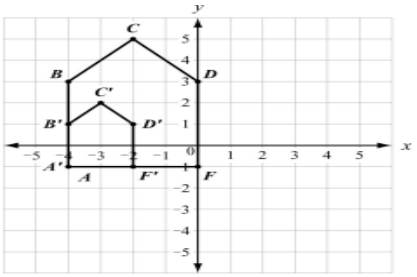
1.	2.
dilation of $\frac{1}{2}$ 	dilation of 1.5 $S(-1, 0), V(0, 1), E(3, -3)$ 

Find the coordinates of the vertices of each figure after the given transformation.

3. dilation of 0.25 $X(2, -1)$, $G(4, 4)$, $W(4, -1)$	4. dilation of 4.5 $I(-1, 0)$, $M(-1, 1)$, $B(1, 0)$
5. Graph the image of rectangle KLMN after dilation with a scale factor of 2, centered at the origin 	6. Graph the image of quadrilateral FGHI after dilation with a scale factor of $\frac{1}{5}$, centered at the origin 

Homework 2.6 Dilations & Scale Factor **Solutions**

1. Figure A'B'C'D'F' is a dilation of figure ABCDF by a scale factor of $\frac{1}{2}$. The dilation is centered at (-4, -1).



Which statement is true?

(a) $\frac{AB}{A'B'} = \frac{B'C'}{BC}$

(b) $\frac{AB}{A'B'} = \frac{BC}{B'C'}$

(c) $\frac{AB}{A'B'} = \frac{BC}{D'F'}$

(d) $\frac{AB}{A'B'} = \frac{D'F'}{BC}$

B

2. Which transformation results in a figure that is similar to the original figure but has a greater area?

(a) a dilation of ▲QRS by a scale factor of 0.25

(b) a dilation of ▲QRS by a scale factor of 0.5

(c) a dilation of ▲QRS by a scale factor of 1

(d) a dilation of ▲QRS by a scale factor of 2

D

Write a rule to describe each transformation

3.

$U(-2, -1), K(0, 2), F(2, -2)$
to
$U'(-3, -1.5), K'(0, 3), F'(3, -3)$

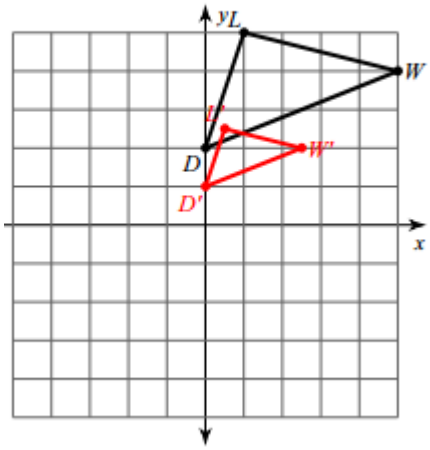
4.

$K(-1, -2), U(-2, 2), V(2, 2), Q(2, -1)$
to
$K'(-2, -4), U'(-4, 4), V'(4, 4), Q'(4, -2)$

Graph the image of the figure using the transformation given.

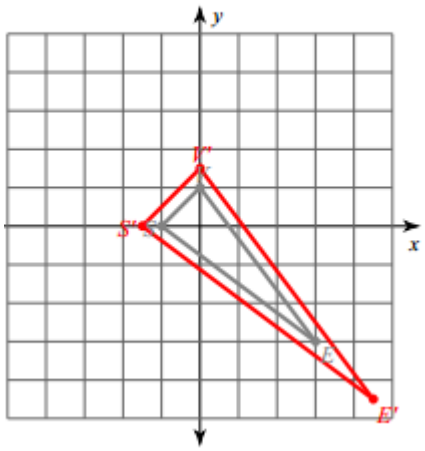
1.

dilation of $\frac{1}{2}$

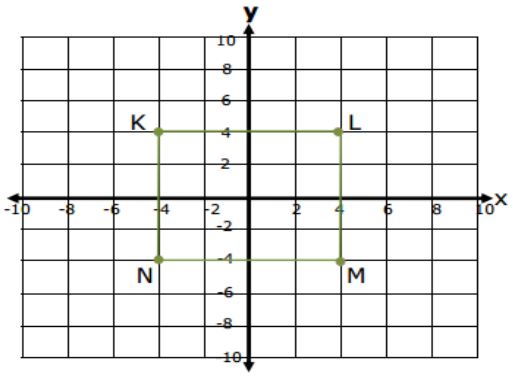


2.

dilation of 1.5
$S(-1, 0), V(0, 1), E(3, -3)$



Find the coordinates of the vertices of each figure after the given transformation.

3. dilation of 0.25 $X(2, -1), G(4, 4), W(4, -1)$ $X'(0.5, -0.25), G'(1, 1), W'(1, -0.25)$	4. dilation of 4.5 $I(-1, 0), M(-1, 1), B(1, 0)$ $I'(-4.5, 0), M'(-4.5, 4.5), B'(4.5, 0)$
5. Graph the image of rectangle KLMN after dilation with a scale factor of 2, centered at the origin 	6. Graph the image of quadrilateral FGHI after dilation with a scale factor of $\frac{1}{5}$, centered at the origin