Name:_____ Date:_____

Dilations/Translations Worksheet

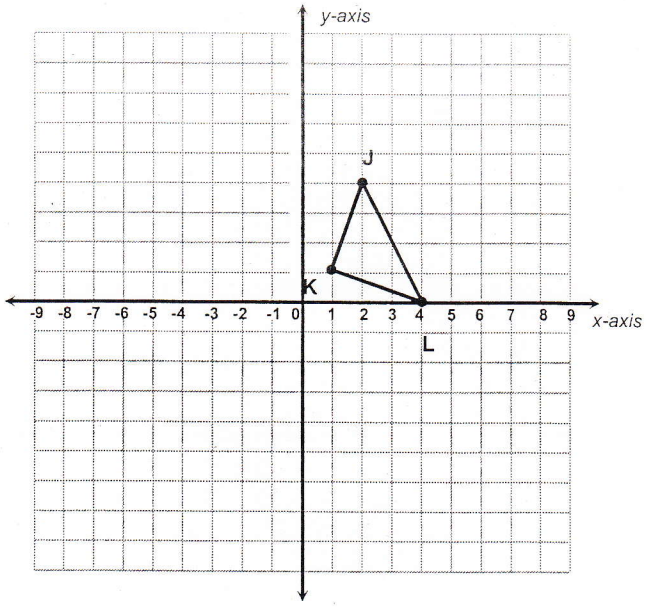
Directions: Answer the following questions to the best of your ability. For the y-axis, use the same scaling as the x-axis

1. In Math, the word dilate means to _____ or _____ a figure.

2. If a scale factor is less than 1, then your figure gets _____.

3. If a scale factor is greater than 1, then your figure gets _____.

4.



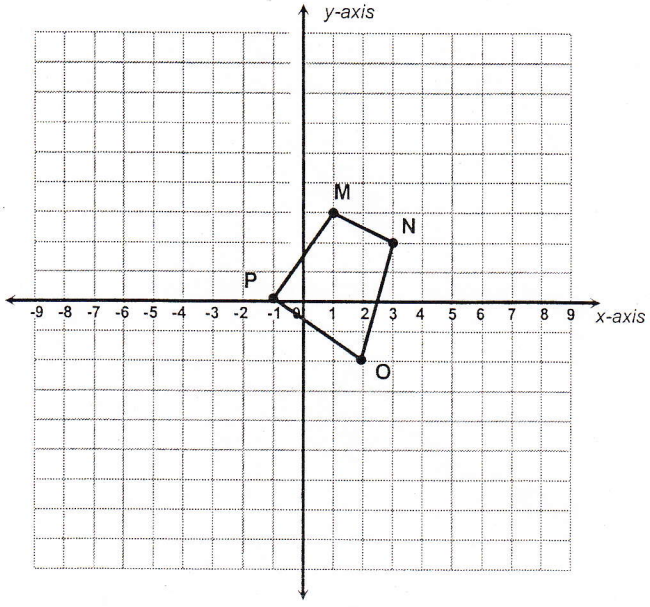
Graph the dilated image of triangle JKL using a scale factor of 2 and (0,0) as the center of dilation.

J: _____ J': _____

K: _____ K': _____

L: _____ L': _____

5.



Graph the dilated image of quadrilateral MNOP using a scale factor of 3 and the origin as the center of dilation.

M: _____ M': _____

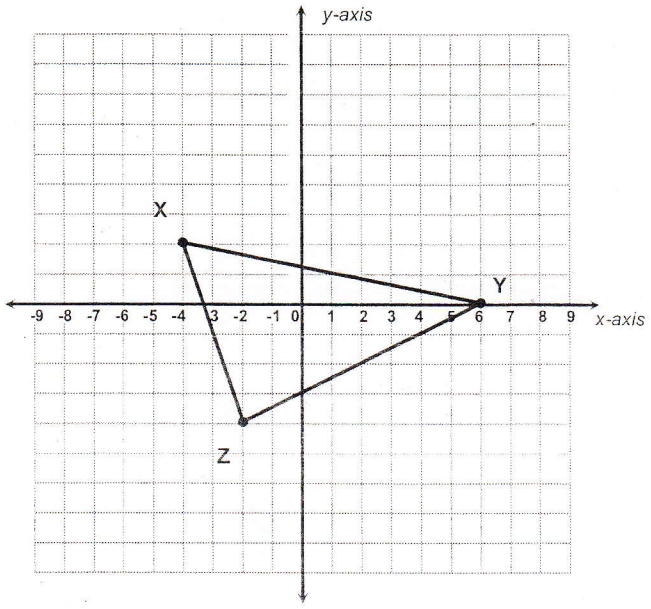
N: _____ N': _____

O: _____ O': _____

P: _____ P': _____

Name:_____ Date:_____

6.



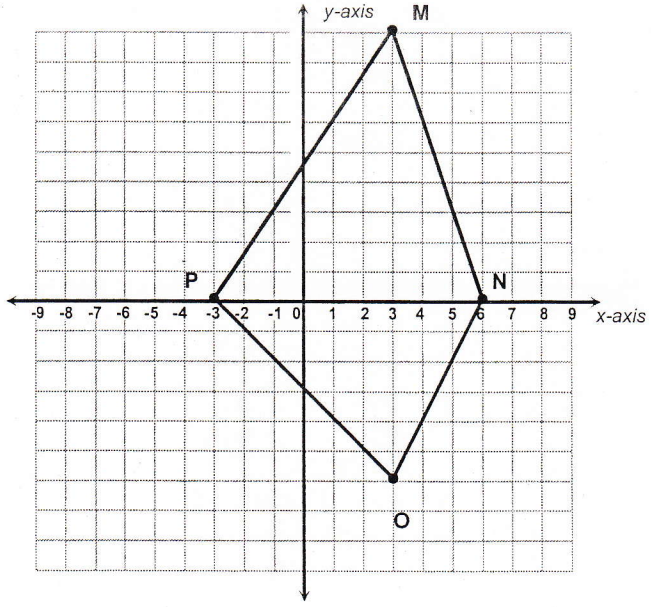
Graph the dilated image of triangle XYZ using a scale factor of 1.5 and (0,0) as the center of dilation.

X: _____ X': _____

Y: _____ Y': _____

Z: _____ Z': _____

7.



Graph the dilated image of quadrilateral MNOP using a scale factor of 1/3 and the origin as the center of dilation.

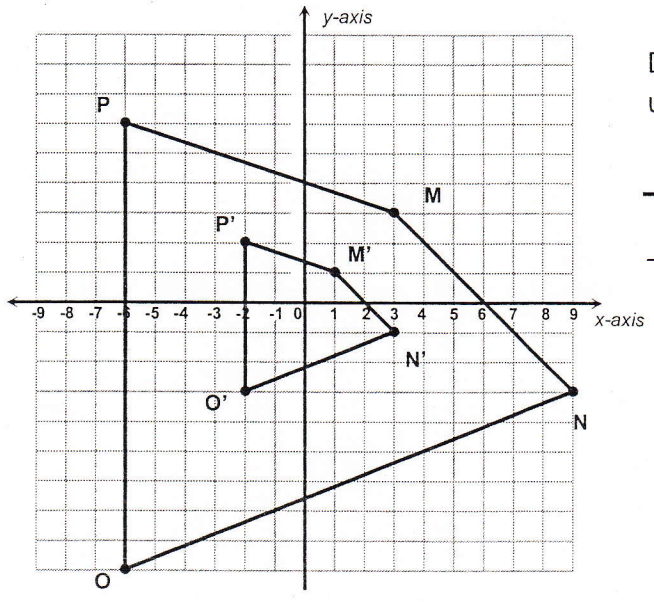
M: _____ M': _____

N: _____ N': _____

O: _____ O': _____

P: _____ P': _____

8.



Describe the dilation of quadrilateral MNOP, using the origin as the center.

_____

_____

Name:_____ Date:_____

9. The table below shows the coordinates of triangle RST and the coordinates of R' in triangle R'S'T'. Triangle R'S'T' is a dilation of triangle RST.

Triangle RST		Triangle R'S'T'	
R	(–2, –3)	R'	(–6, –9)
S	(0, 2)	S'	
T	(2, –3)	T'	

Part A

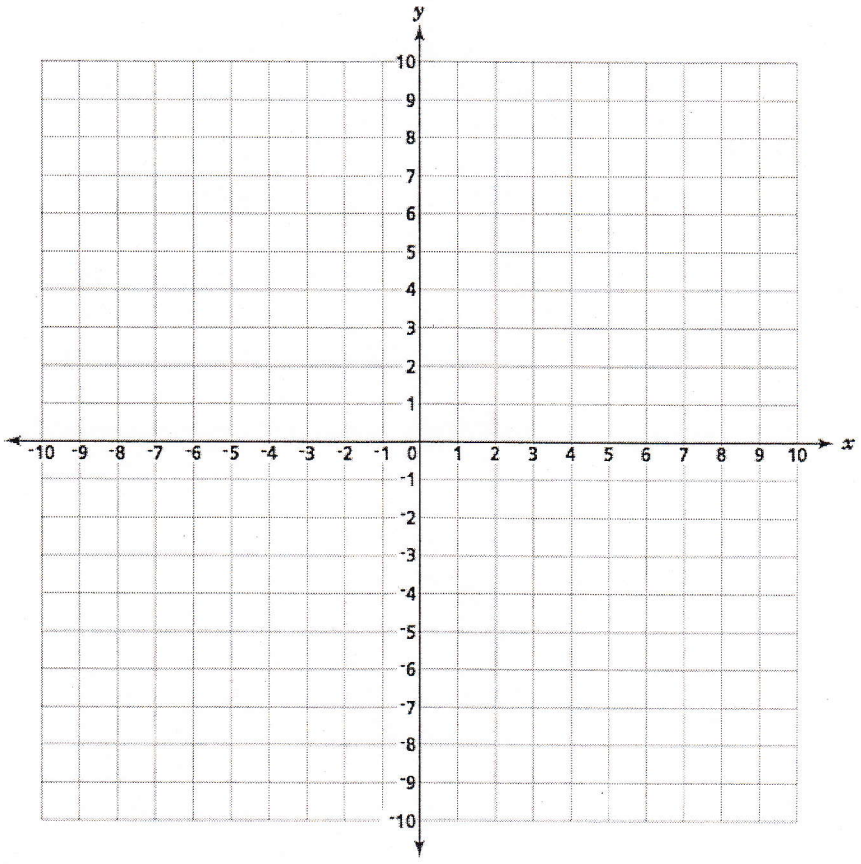
What are the coordinates of point S' and point T'?

Answer S' = (_____ , _____)

T' = (_____ , _____)

Part B

On the grid below, draw triangle RST and triangle R'S'T'.

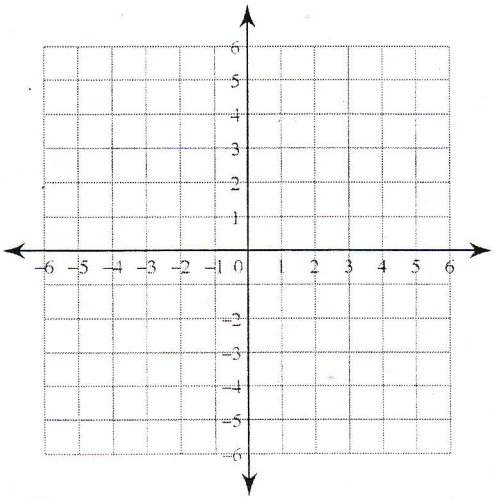


Do the following problem with the class, then write down the process on the right:

Dilate ΔADI, A(-1,-1), D(0,2), I(3,1) by a scale factor of 2 from the origin.

A' (____,____)
B' (____,____)
C' (____,____)

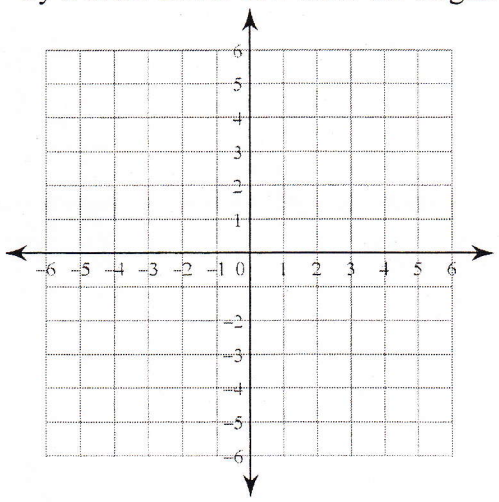
How do you do a dilation from the origin?



What are the important pieces of information given for a dilation?

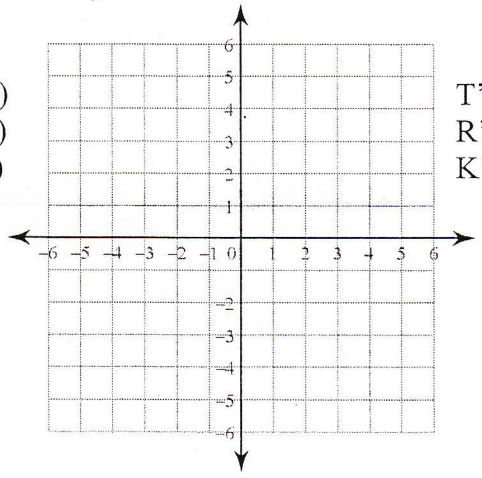
Do the next 4 dilation problems. Check your answers with a neighbor.

1) Dilate ΔQRS if Q(-1,0), R(-1,2), S(-2,1) by a scale factor of 2 from the origin.



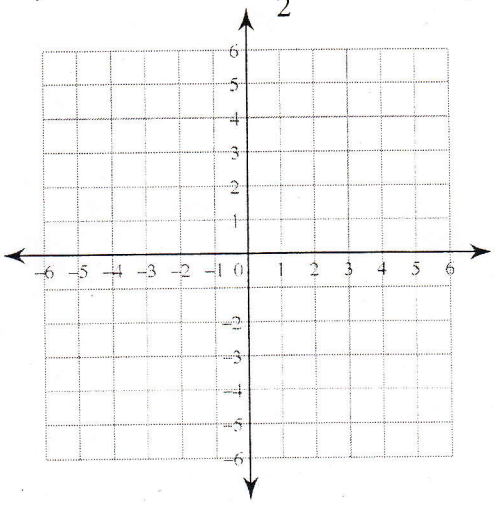
Q' (____,____)
R' (____,____)
S' (____,____)

2) Dilate ΔTRK if T(-1,-2), R(1,0), K(0,1) by a scale factor of 3 from the origin.



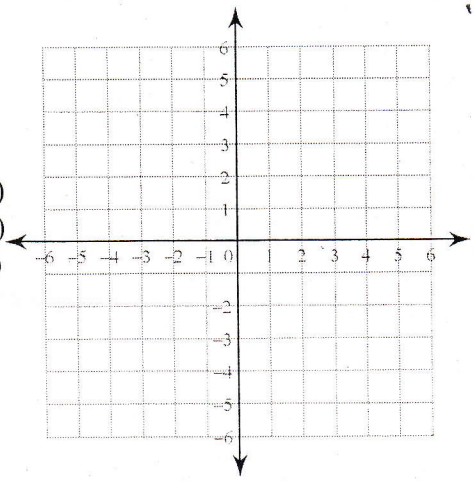
T'(____,____)
R'(____,____)
K'(____,____)

3) Dilate ΔXYZ if X(-4,0), Y(-4,4), Z(-2,-2) by a scale factor of $\frac{1}{2}$ from the origin.



X' (____,____)
Y' (____,____)
Z' (____,____)

4) Dilate ΔHAT if H(-1,-1), A(1,0), T(-1,2) by a scale factor of 2 from the point (-1,2)



H'(____,____)
A'(____,____)
T'(____,____)