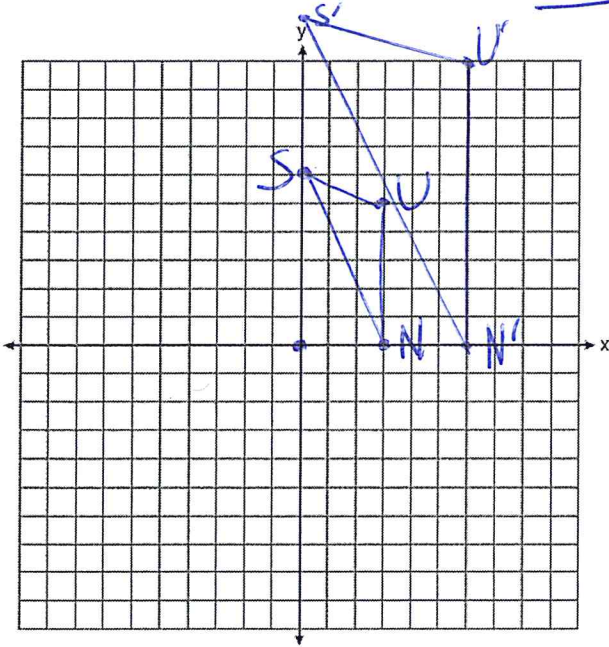


Name Schlansky  
Mr. Schlansky

Date \_\_\_\_\_  
Geometry

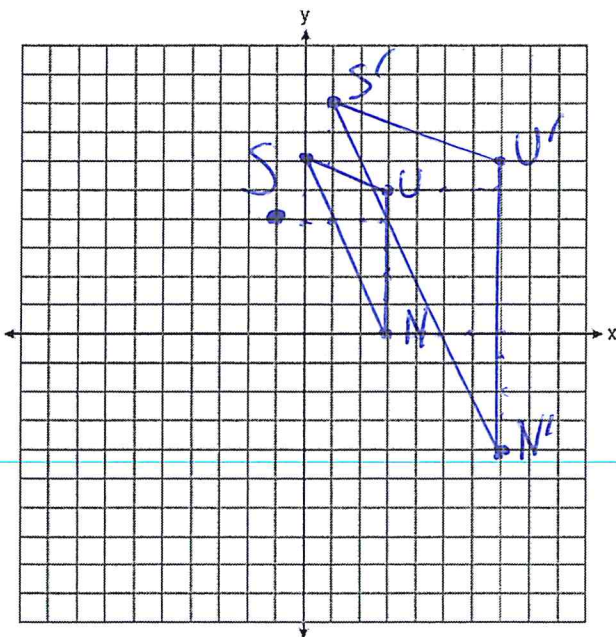
## Dilations

1. Triangle  $SUN$  has coordinates  $S(0,6)$ ,  $U(3,5)$ , and  $N(3,0)$ . On the accompanying grid, draw and label  $\triangle SUN$ . Then, graph and state the coordinates of  $\triangle S'U'N'$ , the image of  $\triangle SUN$  after a dilation of 2 centered at the origin. multiply



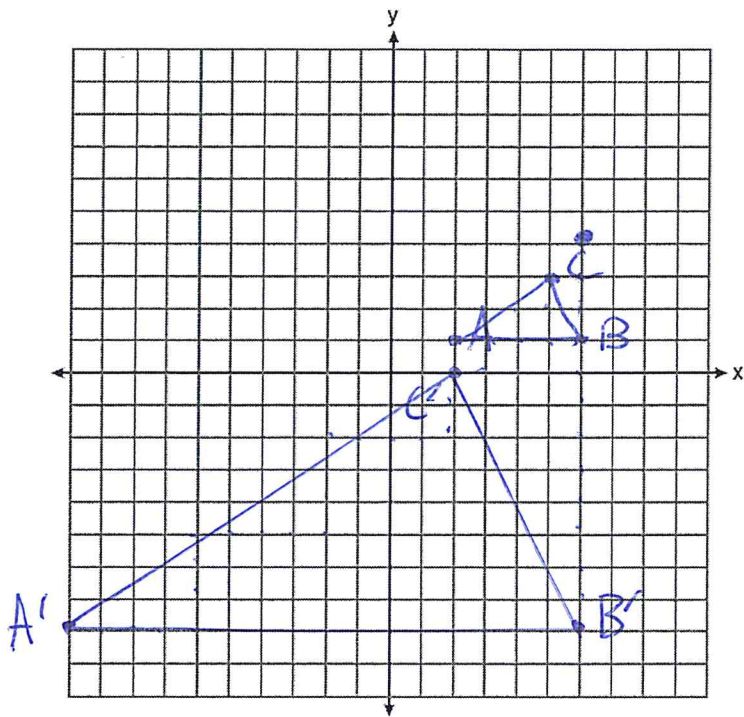
$$\begin{aligned} S(0,6) &\xrightarrow{\text{dilation } 2} (0,12) \\ U(3,5) &\rightarrow (6,10) \\ N(3,0) &\rightarrow (6,0) \end{aligned}$$

2. Triangle  $SUN$  has coordinates  $S(0,6)$ ,  $U(3,5)$ , and  $N(3,0)$ . On the accompanying grid, draw and label  $\triangle SUN$ . Then, graph and state the coordinates of  $\triangle S'U'N'$ , the image of  $\triangle SUN$  after a dilation of 2 centered at  $(-1,4)$ .

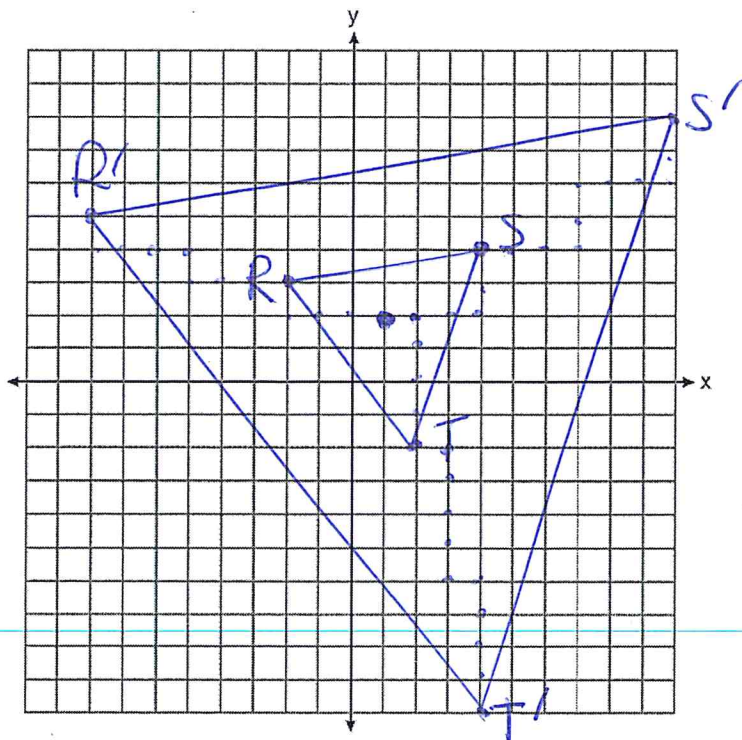


$$\begin{aligned} S'(1,8) \\ U'(7,6) \\ N'(7,-4) \end{aligned}$$

3. Triangle  $ABC$  has coordinates  $A(2, 1)$ ,  $B(6, 1)$ ,  $C(5, 3)$ . What is the image of this triangle after a dilation of 4 centered at  $(6, 4)$ . Graph both the image and the pre image.

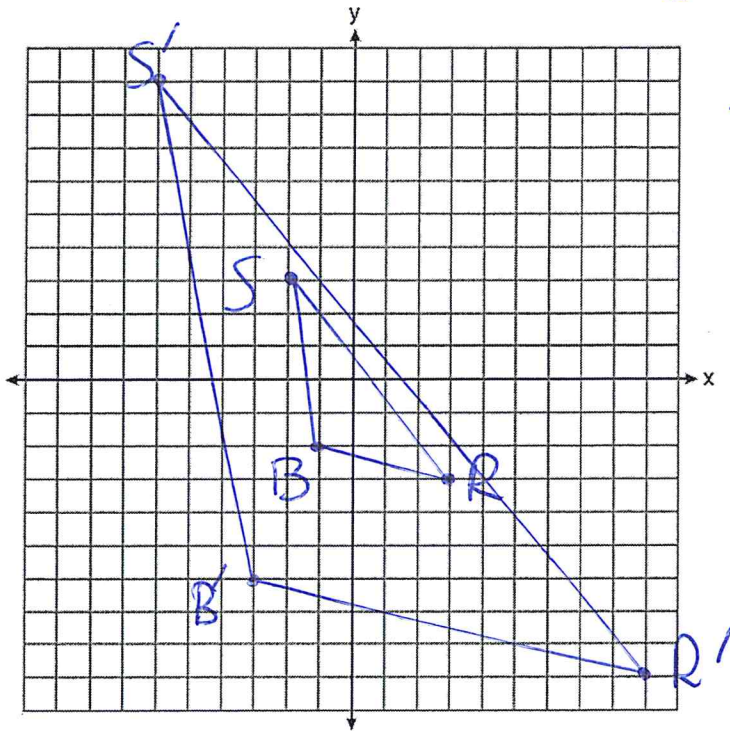


4. The coordinates of the vertices of  $\triangle RST$  are  $R(-2, 3)$ ,  $S(4, 4)$ , and  $T(2, -2)$ . Graph  $\triangle RST$  and  $\triangle R'S'T'$ , the image of  $\triangle RST$  after a dilation of 3 centered at  $(1, 2)$ .



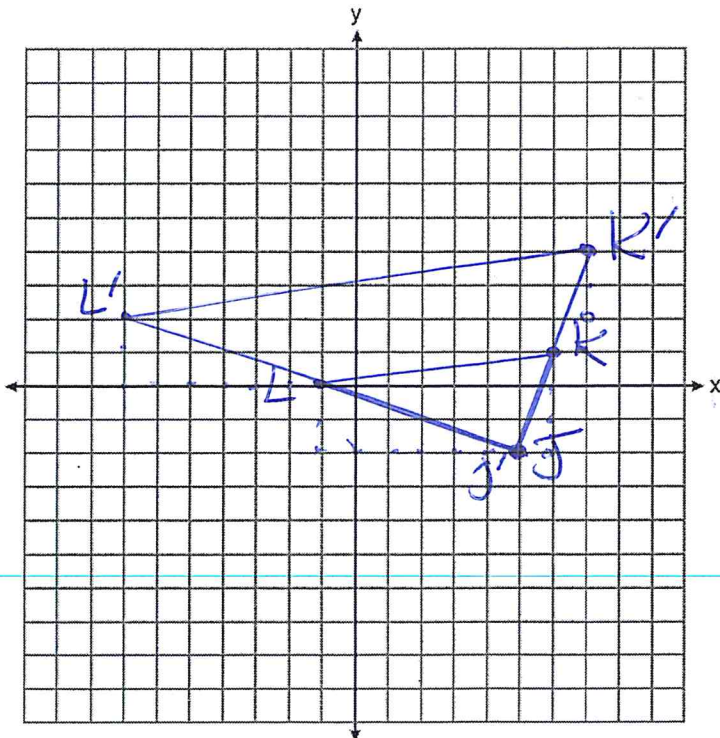
5. Triangle  $SBR$  has coordinates  $S(-2,3)$ ,  $B(-1,-2)$ , and  $R(3,-3)$ . What is the image of this triangle after a dilation centered at the origin. Graph both the image and the pre image.

*of 3 multiply*

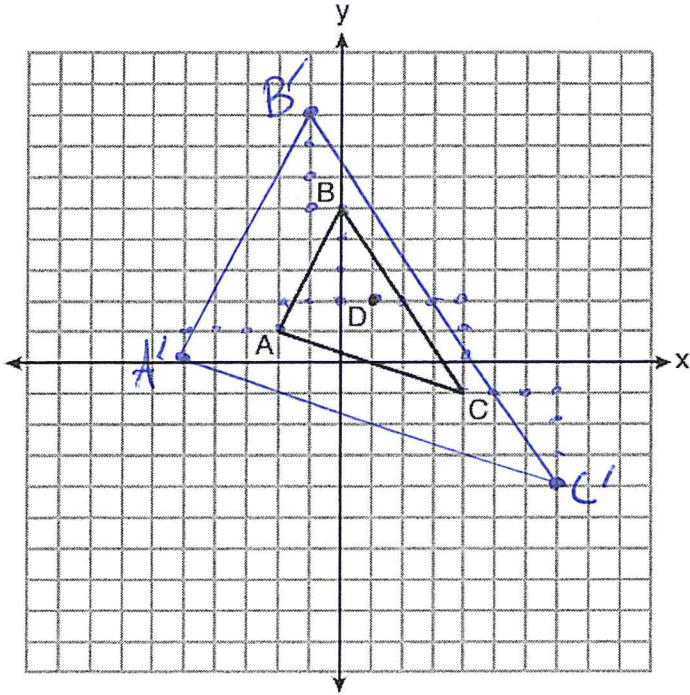


$$\begin{aligned} S(-2, 3) &\xrightarrow{\text{dilation } \cdot 3} (-6, 9) \\ B(-1, -2) &\rightarrow (-3, -6) \\ R(3, -3) &\rightarrow (9, -9) \end{aligned}$$

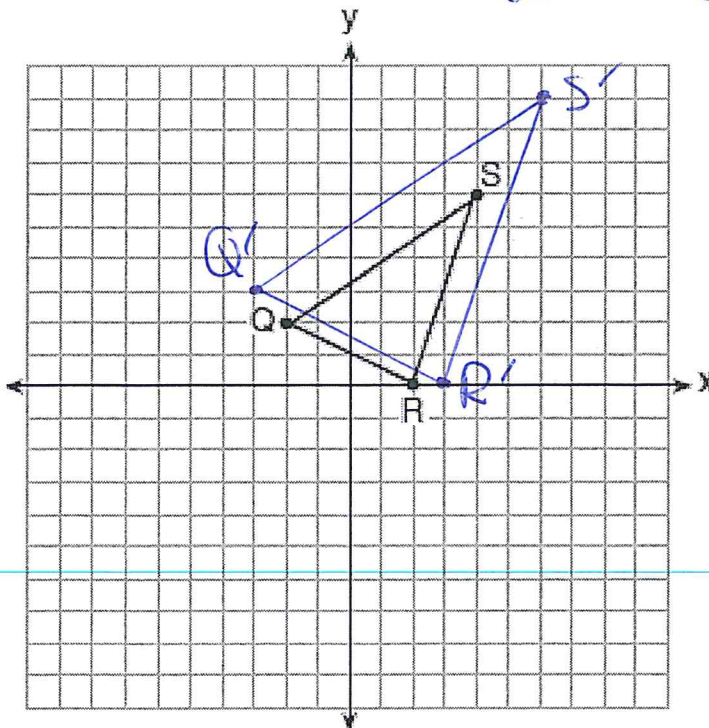
6. The coordinates of the vertices of  $\triangle JKL$  are  $J(5,-2)$ ,  $K(6,1)$ , and  $L(-1,0)$ . Graph  $\triangle JKL$ . Graph and label  $\triangle J'K'L'$ , the image of  $\triangle JKL$  after a dilation of 2 centered at J.



7. Triangle  $ABC$  and point  $D(1,2)$  are graphed on the set of axes below. Graph and label  $\triangle A'B'C'$ , the image of  $\triangle ABC$ , after a dilation of scale factor 2 centered at point  $D$ .



8. Triangle  $QRS$  is graphed on the set of axes below. On the same set of axes, graph and label  $\triangle Q'R'S'$ , the image of  $\triangle QRS$  after a dilation with a scale factor of  $\frac{3}{2}$  centered at the origin. *multiply*



*dilation*

$$Q(-2, 2) \xrightarrow{\cdot \frac{3}{2}} (-3, 3)$$

$$R(2, 0) \rightarrow (3, 0)$$

$$S(4, 6) \rightarrow (6, 9)$$