❷ Rotation

Draw the pre-image then rotate ΔDEF 90° c.c.w.

Counterclockwise Rotation	Clockwise Rotation	Coordinate Rule
90° counterclockwise	270° clockwise	$(x, y) \rightarrow (-y, x)$
180° counterclockwise	180° clockwise	$(x, y) \rightarrow (-x, -y)$
270° counterclockwise	90° clockwise	$(x, y) \rightarrow (y, -x)$

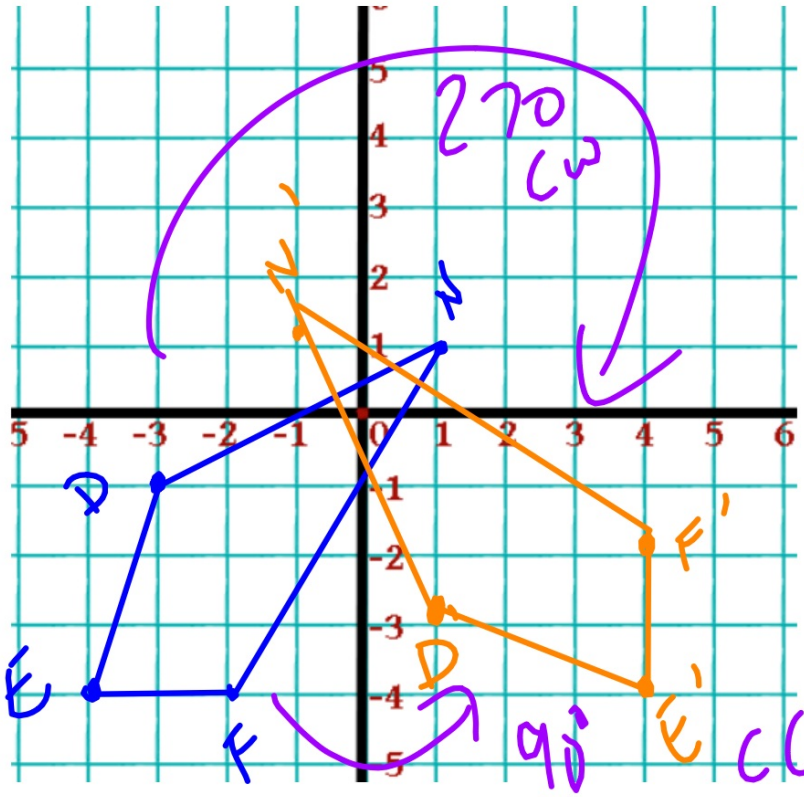
Pre-Image Coordinates:

D(-3,-1) +1,-3

E(-4,-4) +4,-4

F(-2,-4) +4,-2

N(1,1) -1,1



Step 2 Switch

Step 2 Change Sig

❸

Translation

Draw the pre-image then translate KLMN 3 units to the left and 5 units down.

Pre-Image Coordinates:

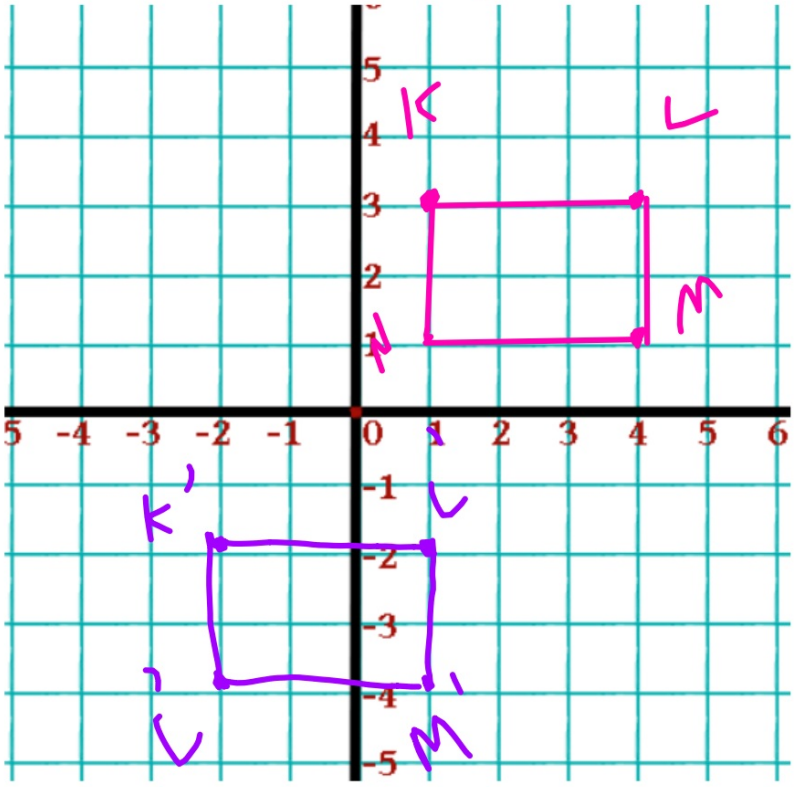
K(1,3)

L(4,3)

M(4,1)

N(1,1)

$(x-3, y-5)$



4

Dilation

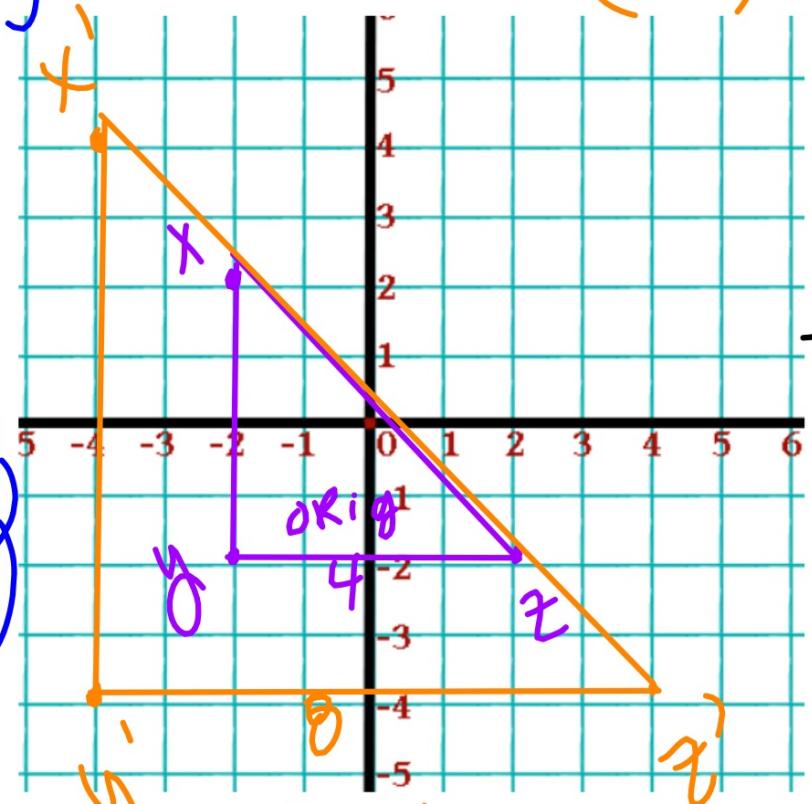
Draw the pre-image then dilate ΔXYZ by a scale factor of 2.

Pre-Image Coordinates:

X(-2,2)

Y(-2,-2)

Z(2,-2)



enlargement

(2x, 2y)

k = 2

multiply by 2

x' (-4, 4)

y' (-4, -4)

z' (4, -4)

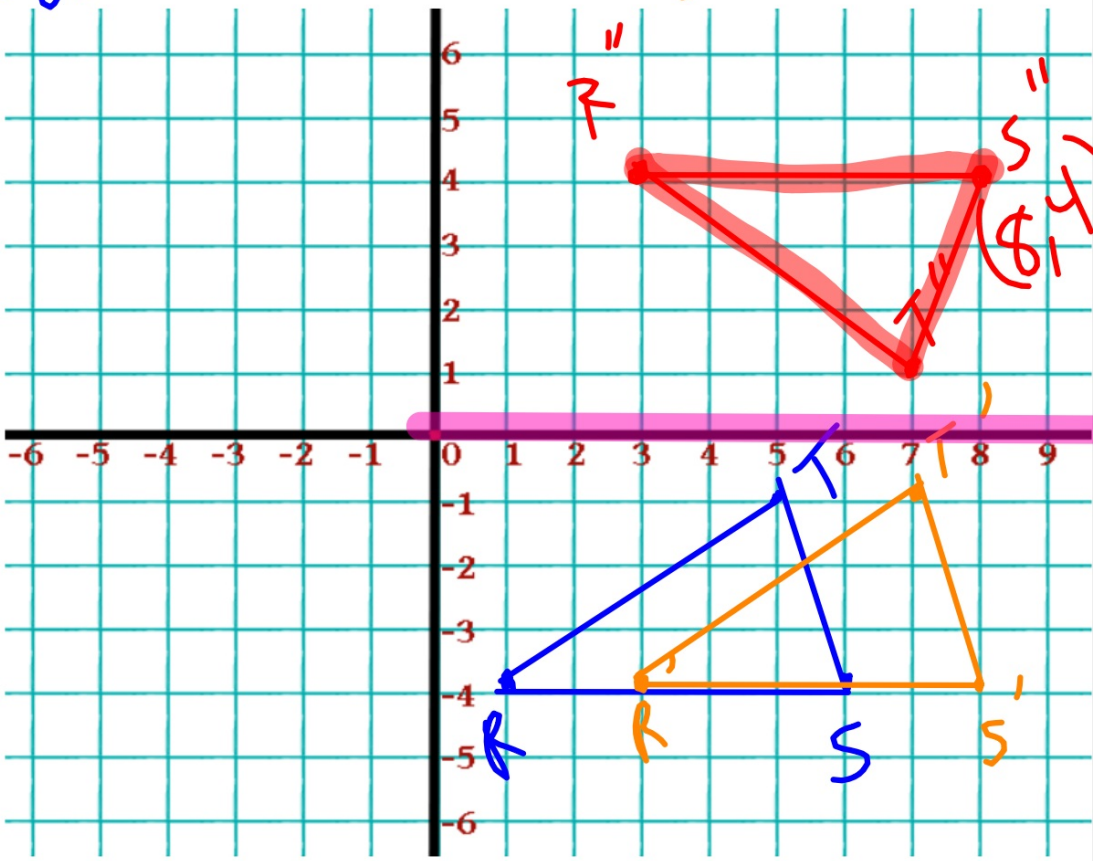
new

#5. **Graph each figure with the given vertices and its image after the indicated glide reflection.**

$\triangle RST$: $R(1, -4)$, $S(6, -4)$, $T(5, -1)$

Translation along $\langle 2, 0 \rangle$ $(x+2, y)$ $(x+2, y)$ Right 2

Reflection: in x-axis



#6 $\triangle JKL$: $J(1, 3)$, $K(5, 0)$, $L(7, 4)$

Translation: along $\langle 0, -3 \rangle$

$(x, y-3)$ x same, down 3

Reflection: in y-axis