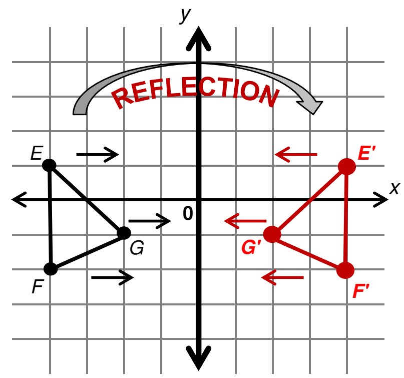
REFLECTION **ANSWERS**

Graph the original figure. Find the new coordinates of the vertices after the given reflection. Then graph the reflection.

HELPFUL EXAMPLE

When a figure is *reflected* over a line, every point of the figure has a similar point on the other side of the line that is the same distance from the line. This is also called s*ymmetry*.



Original figure vertices: *E*(-4,1) ; *F*(-4,-2) ; *G*(-2,-1).
Find the coordinates of the vertices after a reflection over the y-axis.

You need to place points (vertices) on the opposite side of the y-axis that are the same distance away from it as the original points.

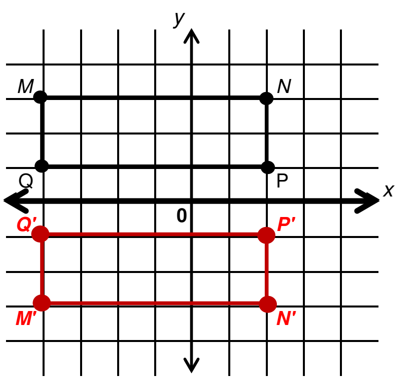
E(-4,1) ⟶ ***E'*(4,1)**
F(-4,-2) ⟶ ***F'*(4,-2)**
G(-2,-1) ⟶ ***G'*(2,-1)**

All the x-coordinates are multiplied by -1 and the y-coordinates stay the same. What do think happens when you reflect over the x-axis?

Now your turn.

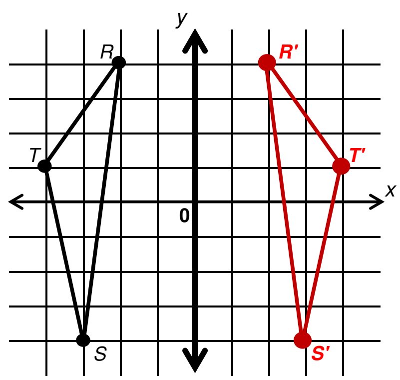
1.
Polygon *MNPQ* with vertices:
M(-4,3) ; *N*(2,3) ; *P*(2,1) ; *Q*(-4,1)

Reflected over the x-axis



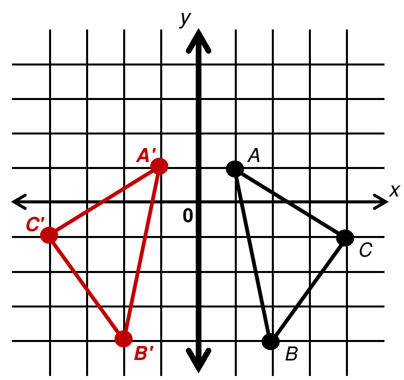
2.
Polygon *RST* with vertices:
R(-2,4) ; *S*(-3,-4) ; *T*(-4,1)

Reflected over the y-axis



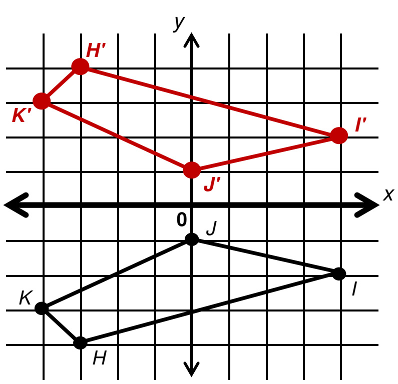
3.
Polygon *ABC* with vertices:
A(1,1) ; B(2,-4) ; C(4,-1)

Reflected over the y-axis



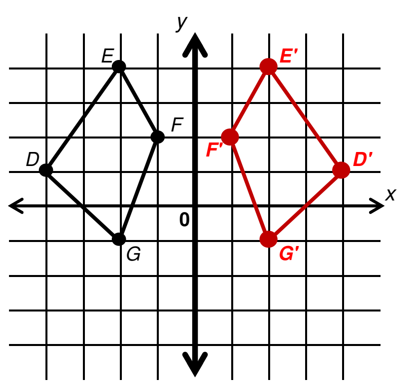
4.
Polygon *HIJK* with vertices:
H(-3,-4) ; *I*(4,-2) ; *J*(0,-1) ; *K*(-4,-3)

Reflected over the x-axis



5.
Polygon *DEFG* with vertices:
D(-4,1) ; *E*(-2,4) ; *F*(-1,2) ; *G*(-2,-1)

Reflected over the y-axis



6.
Polygon *TUV* with vertices:
T(1,0) ; *U*(4,-2) ; *V*(0,-4)

Reflected over the x-axis