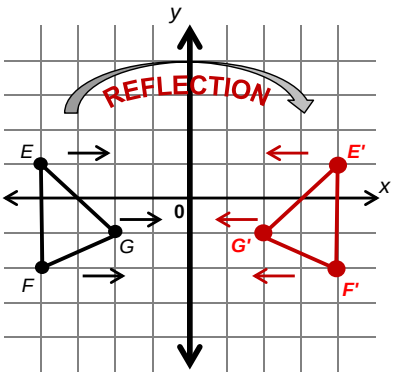
REFLECTION

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.

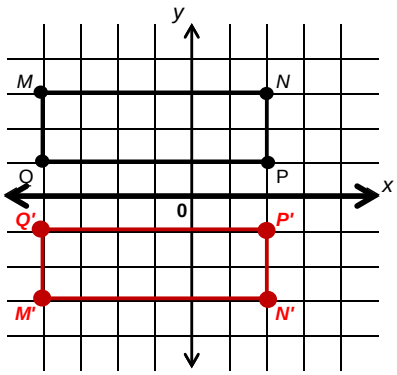
E (-4,1) → ***E'*(4,1)**
F (-4,-2) → ***F'*(4,-2)**
G (-2,-1) → ***G'*(2,-1)**

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.

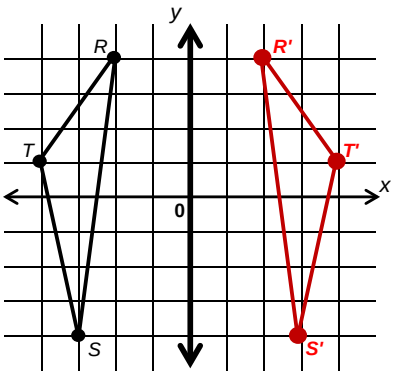
1.
Polygon *MNPQ* with vertices:
M (-4,3) ; *N* (2,3) ; *P* (2,1) ; *Q* (-4,1)

Reflected over the x-axis



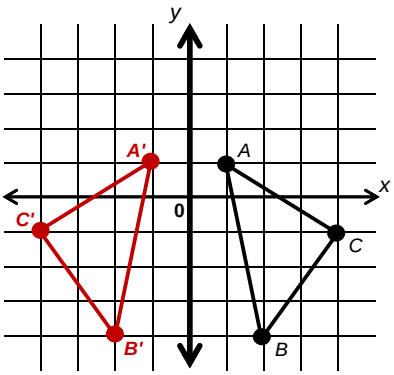
2.
Polygon *RST* with vertices:
R (-2,4) ; *S* (-3,-4) ; *T* (-4,1)

Reflected over the y-axis



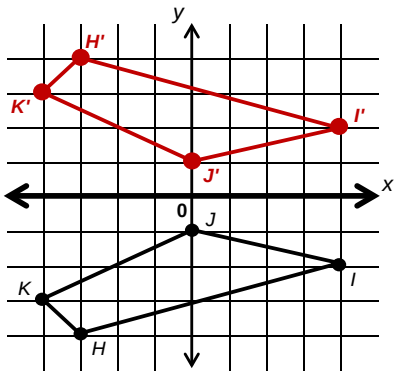
3.
Polygon *ABC* with vertices:
A(1,1) ; B(2,-4) ; C(4,-1)

Reflected over the y-axis



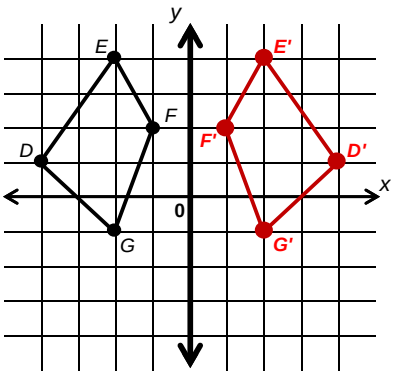
4.
Polygon *HIJK* with vertices:
H (-3,-4) ; *I* (4,-2) ; *J* (0,-1) ; *K* (-4,-3)

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