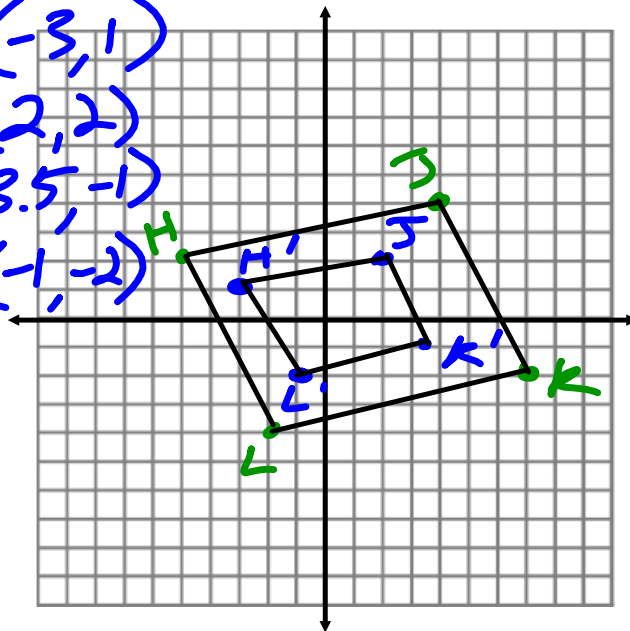


# HW Solutions

$H(-4, 2)$     $H'(-3, 1)$   
 $J(4, 4)$     $J'(2, 2)$   
 $K(7, -2)$     $K'(3.5, -1)$   
 $L(-2, -4)$     $L'(-1, -2)$



$$\frac{2}{2} = \frac{1}{2}$$

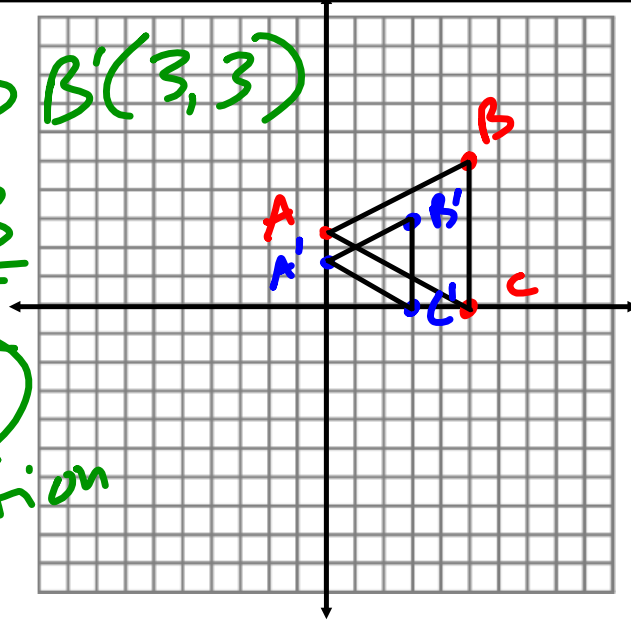
$$\frac{3}{2} = \frac{3}{2}$$

$$B(5,5) \rightarrow B'(3,3)$$

$$\frac{5x}{5} = \frac{3}{5}$$

$$x = \frac{3}{5}$$

reduction



H(1,-2)

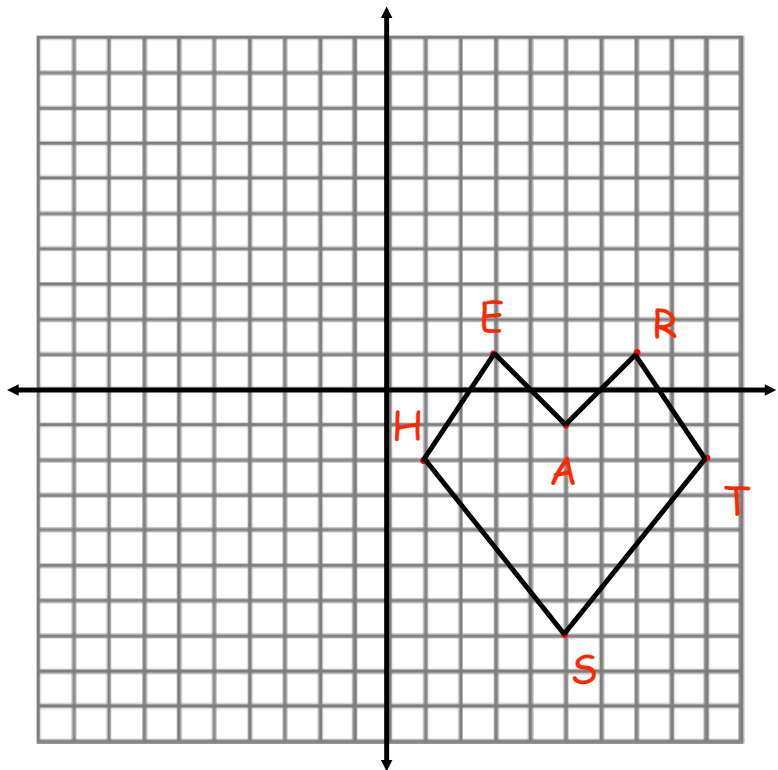
E(3,1)

A(5,-1)

R(7,1)

T(9,-2)

S(5,-7)



Rotate 90  
degrees about  
the origin.

$$90^\circ (x, y) \rightarrow (-y, x)$$

H(1,-2)

$H'(-2, 1)$

E(3,1)

$E'(-1, 3)$

A(5,-1)

$A'(-1, 5)$

R(7,1)

$R'(-1, 7)$

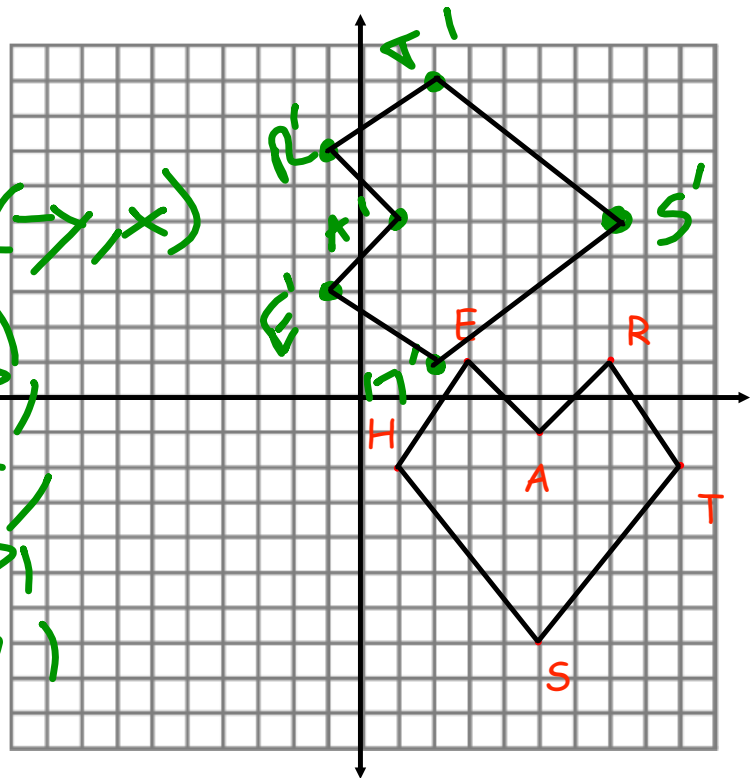
T(9,-2)

$T'(-2, 9)$

S(5,-7)

$S'(-7, 5)$

$S'(7, 5)$



Reflect over the

y-axis

$$(x, y) \rightarrow (-x, y)$$

$$H(1, -2) \quad H'(-1, -2)$$

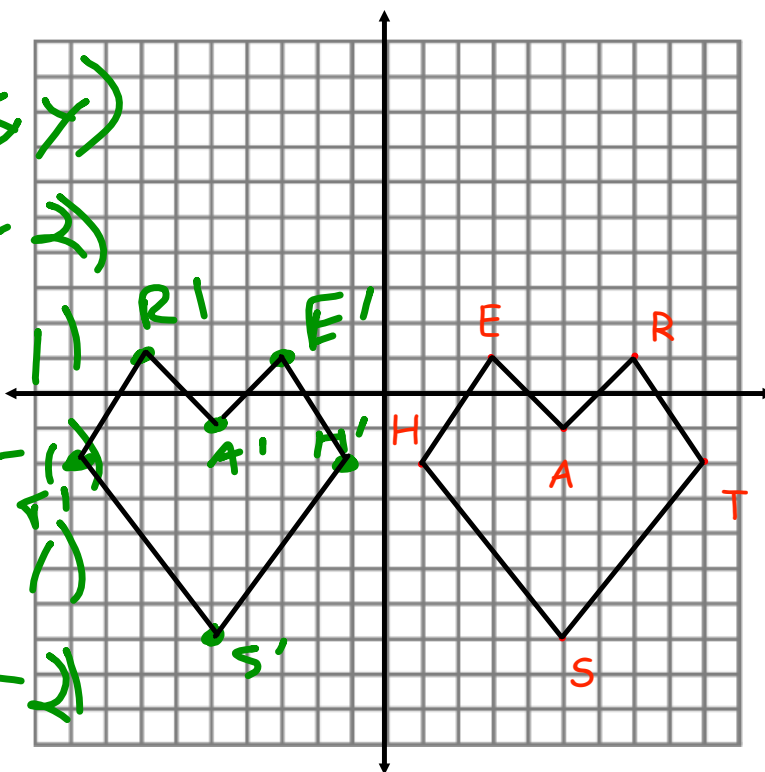
$$E(3, 1) \quad E'(-3, 1)$$

$$A(5, -1) \quad A'(-5, -1)$$

$$R(7, 1) \quad R'(-7, 1)$$

$$T(9, -2) \quad T'(-9, -2)$$

$$S(5, -7) \quad S'(-5, -7)$$



Translate using  
the rule

$$(x,y) \rightarrow (x-5,y+7)$$

$$H(1,-2) \rightarrow H'(-4,5)$$

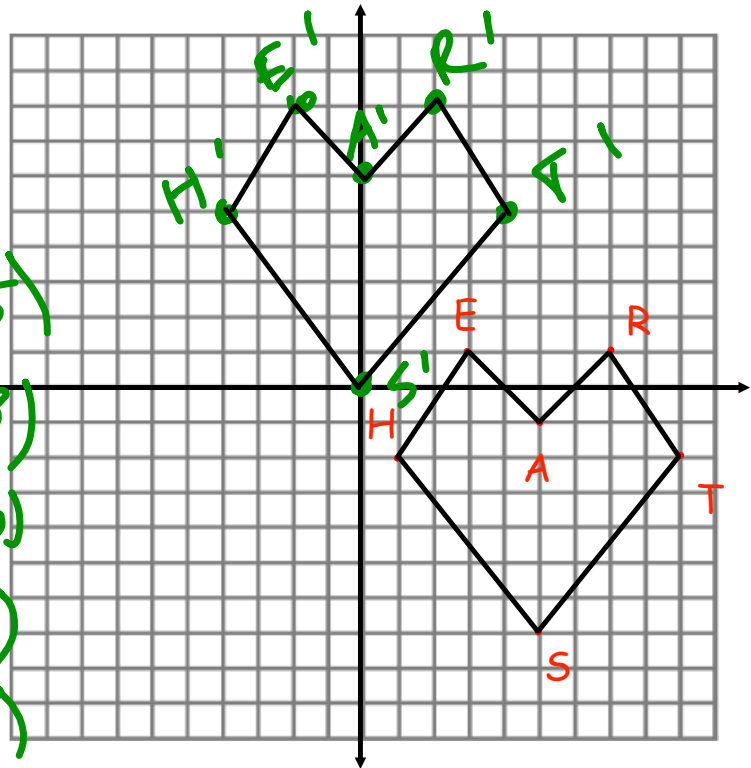
$$E(3,1) \rightarrow E'(-2,8)$$

$$A(5,-1) \rightarrow A'(0,6)$$

$$R(7,1) \rightarrow R'(2,8)$$

$$T(9,-2) \rightarrow T'(4,5)$$

$$S(5,-7) \rightarrow S'(0,0)$$



Rotate 270

degrees about the

origin  $(x, y) \rightarrow (y, -x)$

H(1, -2) H'(-2, -1)

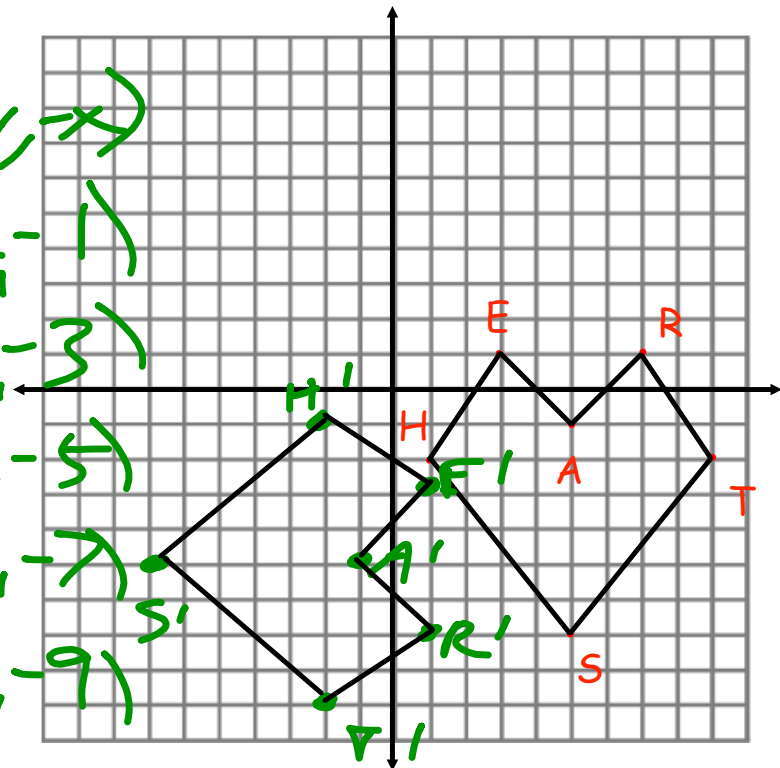
E(3, 1) E'(1, -3)

A(5, -1) A'(-1, -5)

R(7, 1) R'(1, -7)

T(9, -2) T'(-2, -9)

S(5, -7) S'(-7, -5)



Dilate with scale  
factor  $\frac{1}{3}$

$$H(1, -2) \quad H'(\frac{1}{3}, -\frac{2}{3})$$

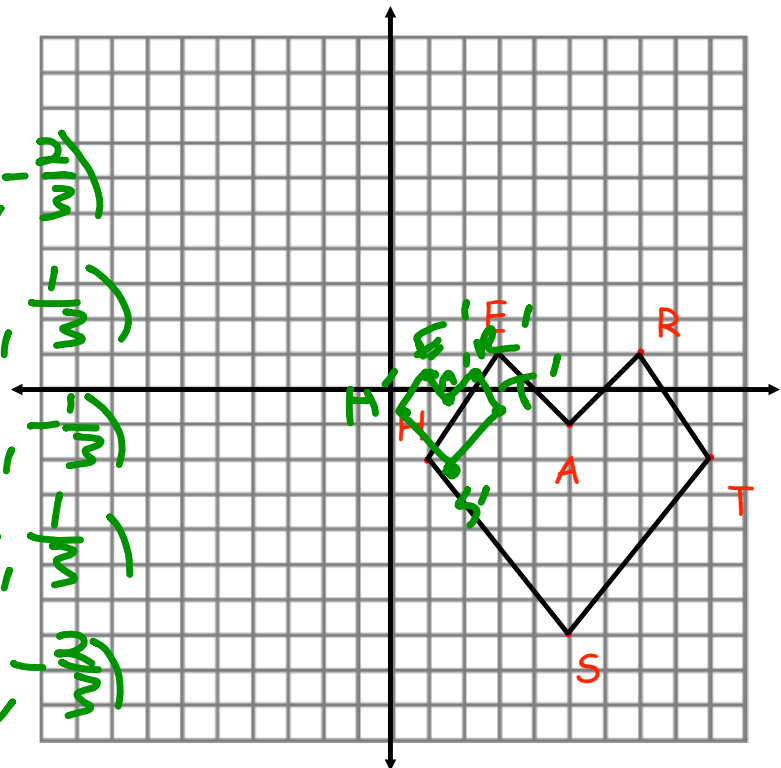
$$E(3, 1) \quad E'(\frac{1}{3}, \frac{1}{3})$$

$$A(5, -1) \quad A'(\frac{5}{3}, -\frac{1}{3})$$

$$R(7, 1) \quad R'(\frac{7}{3}, \frac{1}{3})$$

$$T(9, -2) \quad T'(\frac{3}{3}, -\frac{2}{3})$$

$$S(5, -7) \quad S'(\frac{5}{3}, -\frac{7}{3})$$





Reflect over the  
line  $x=2$

H(1,-2)

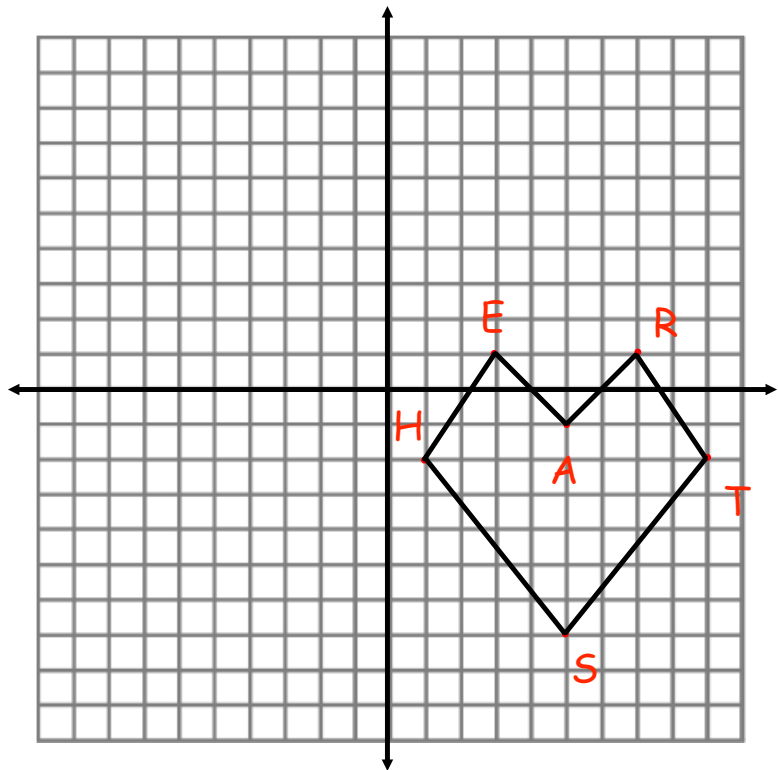
E(3,1)

A(5,-1)

R(7,1)

T(9,-2)

S(5,-7)



Rotate 180  
degrees about the  
origin

H(1,-2)

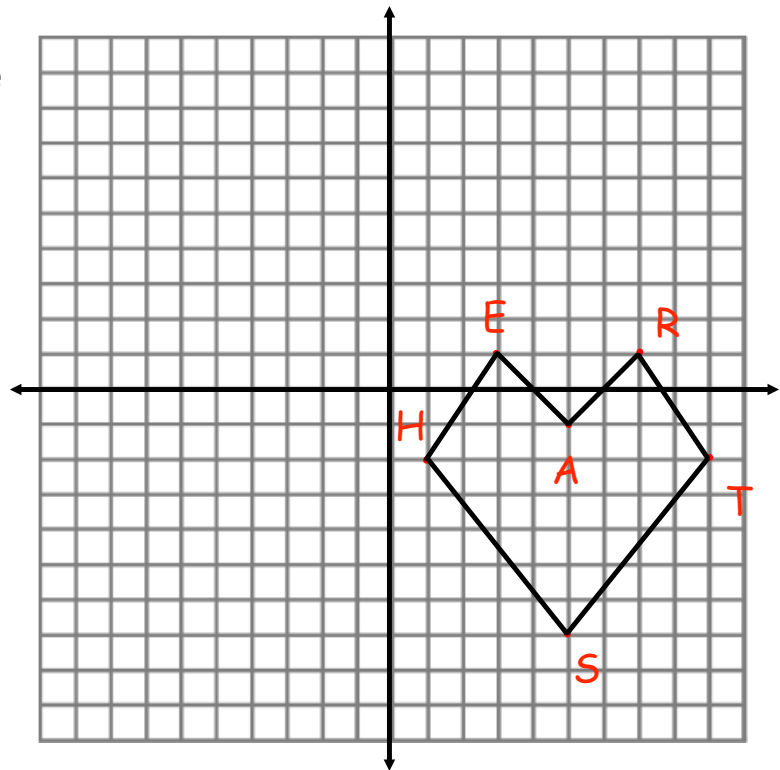
E(3,1)

A(5,-1)

R(7,1)

T(9,-2)

S(5,-7)



Translate using  
the rule

$$(x,y) \rightarrow (x,y-2)$$

H(1,-2)

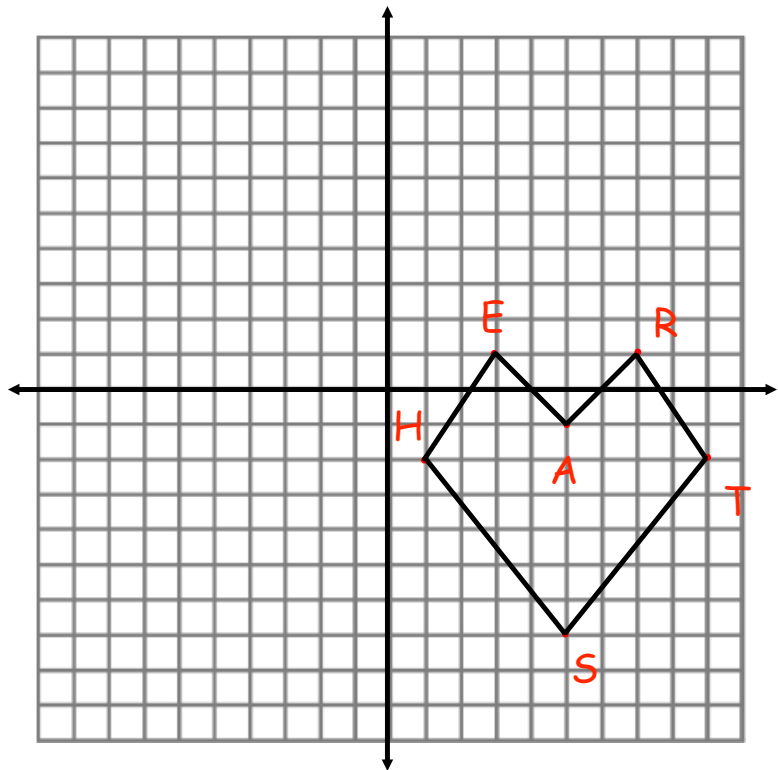
E(3,1)

A(5,-1)

R(7,1)

T(9,-2)

S(5,-7)



Reflect over the  
line  $y=1$

H(1,-2)

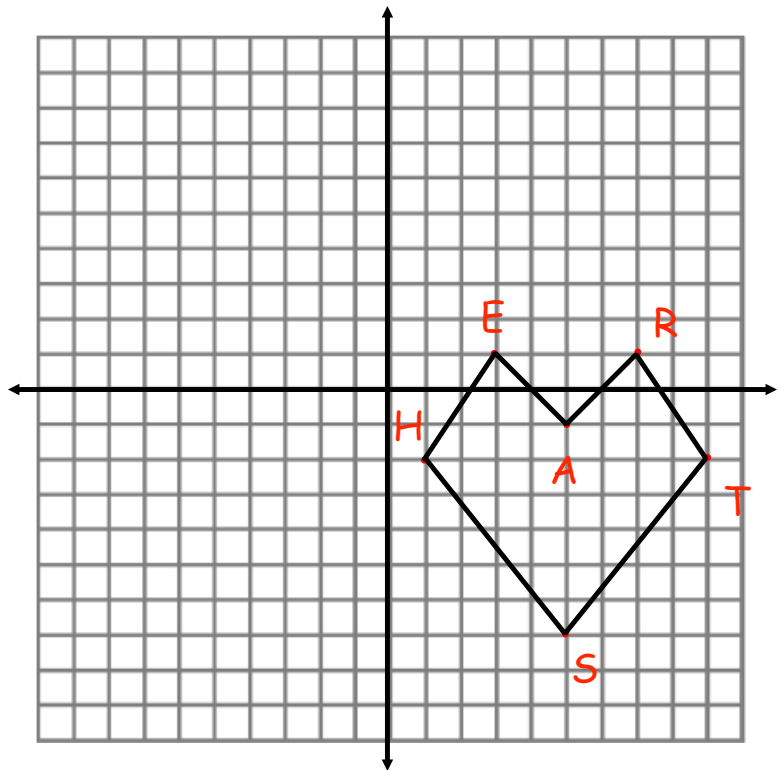
E(3,1)

A(5,-1)

R(7,1)

T(9,-2)

S(5,-7)



Dilate with scale  
factor  $\frac{1}{2}$

H(1,-2)

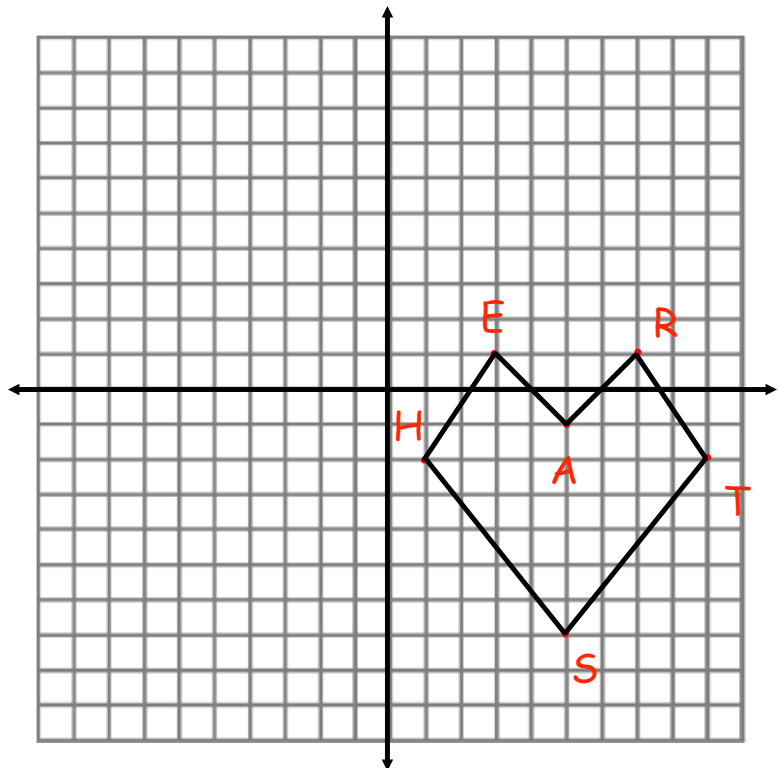
E(3,1)

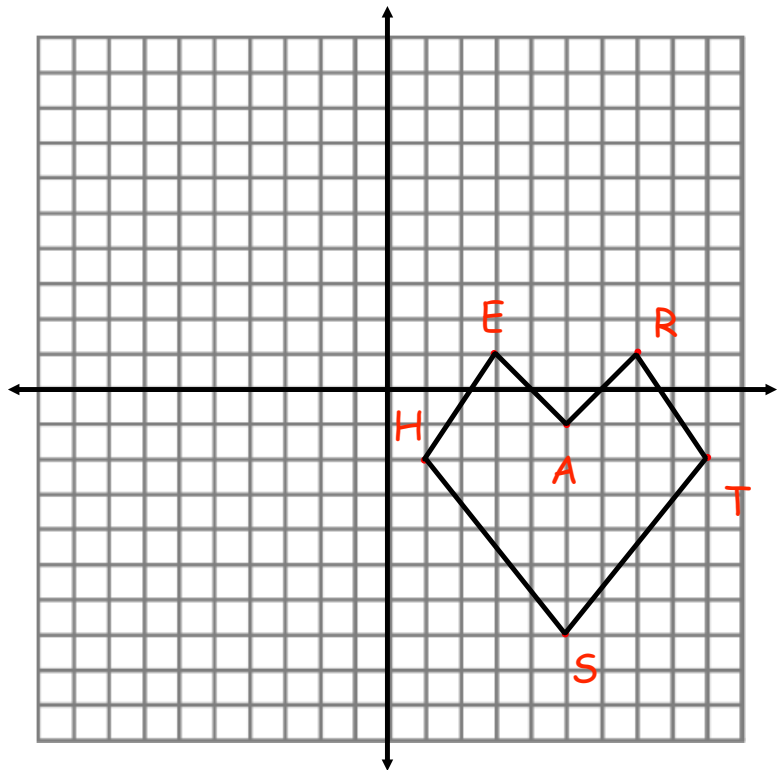
A(5,-1)

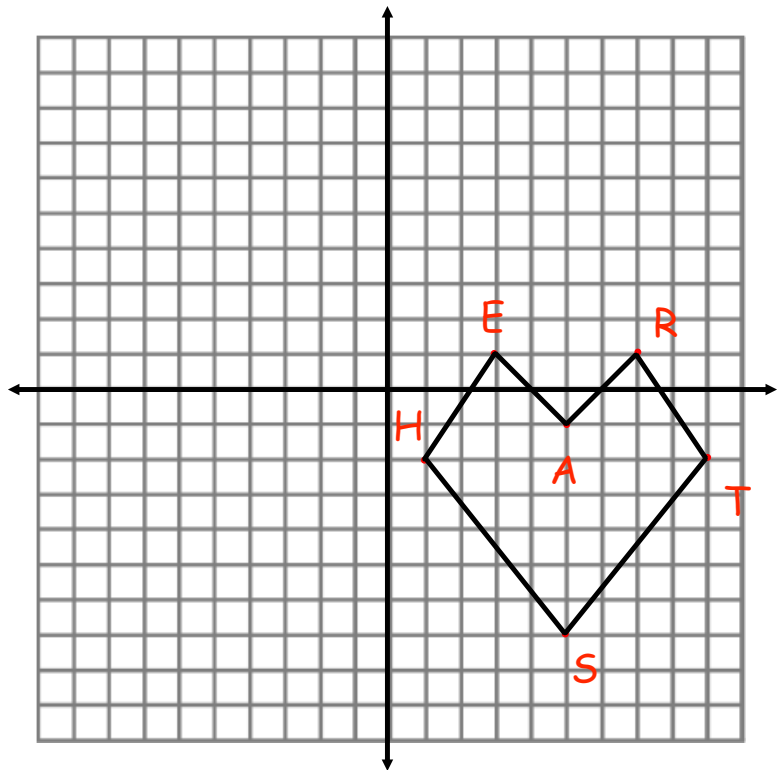
R(7,1)

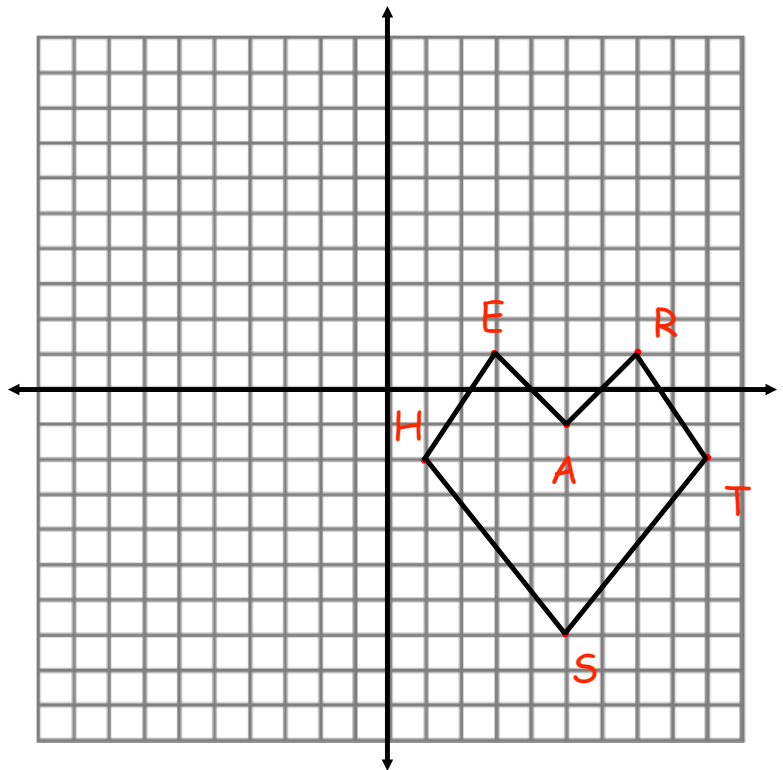
T(9,-2)

S(5,-7)

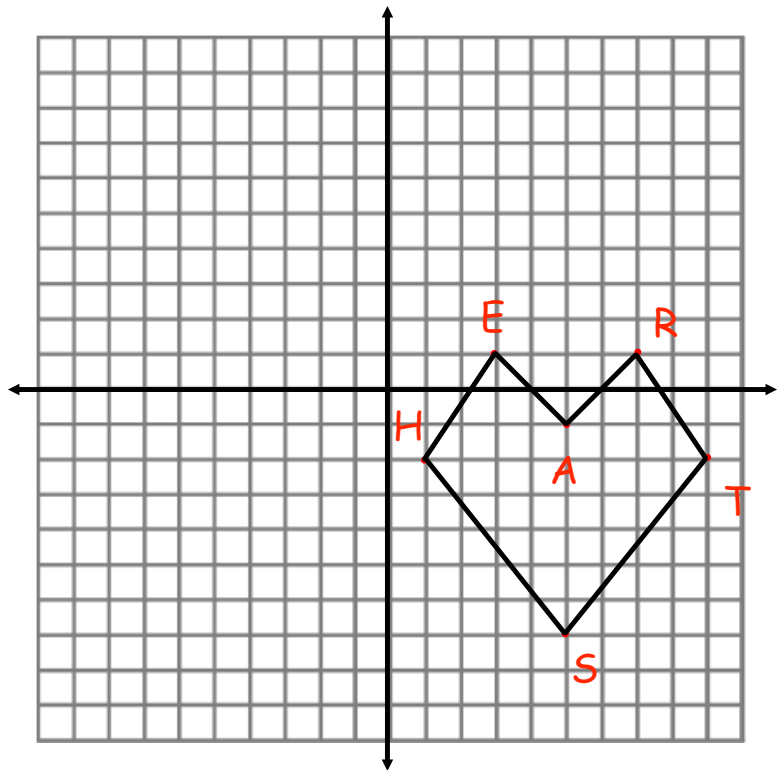


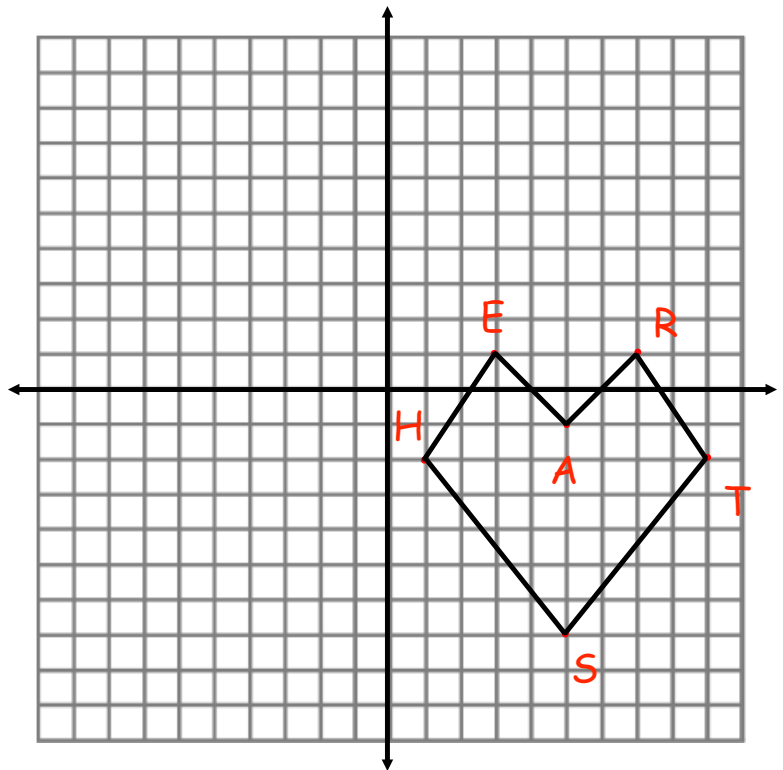


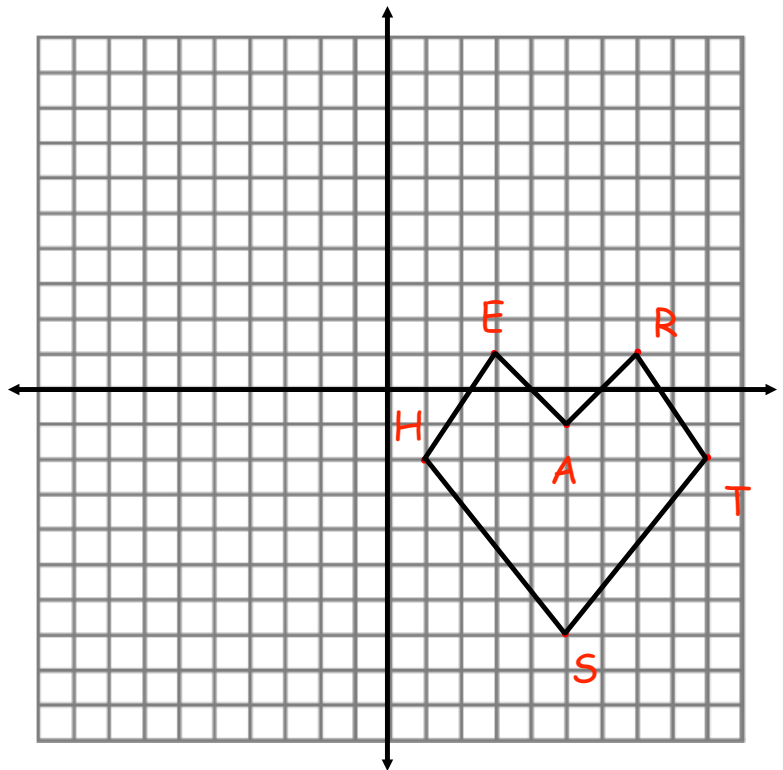


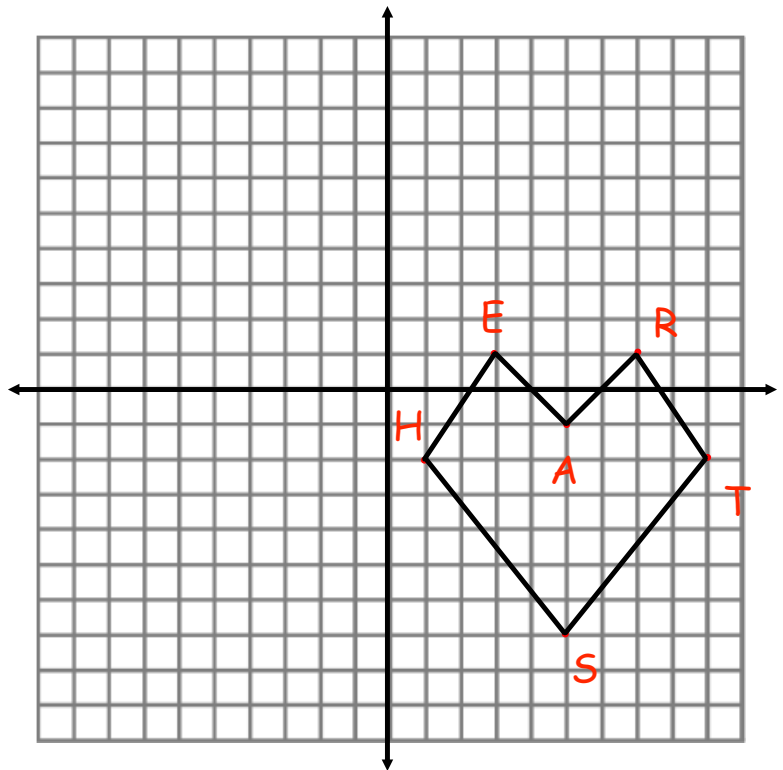












**February 11, 2022**

