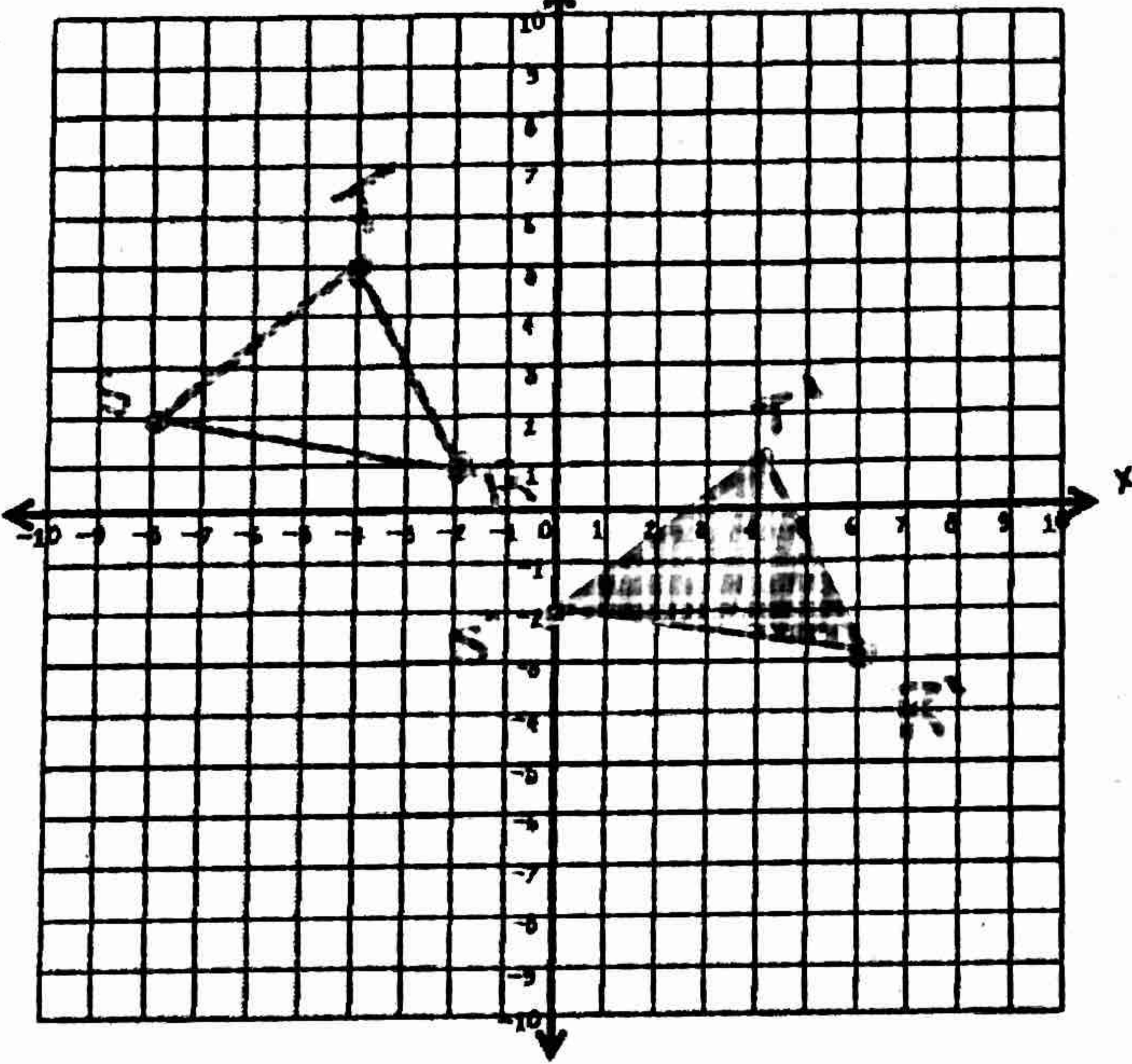


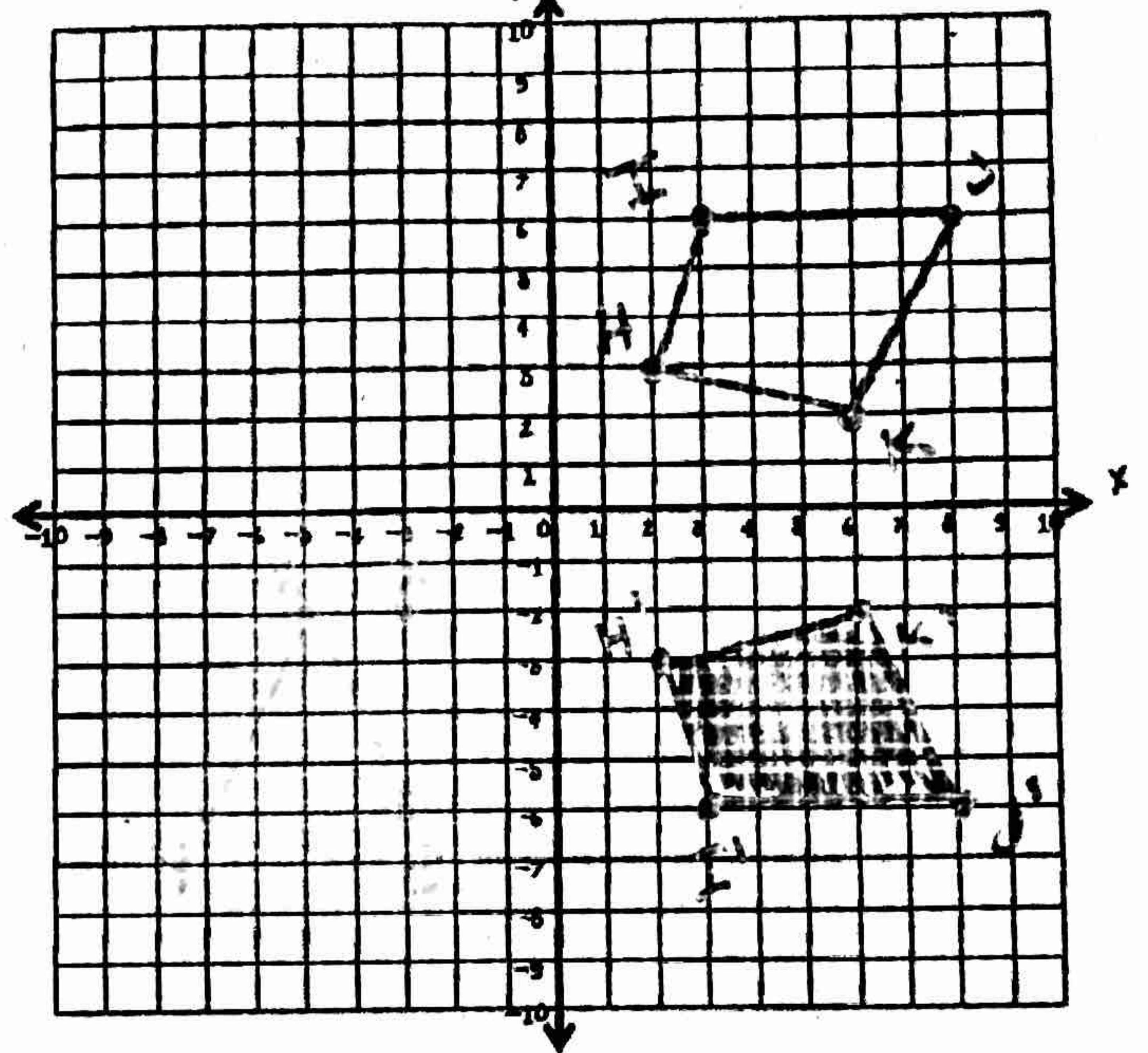
# TRANSFORMATIONS

1 translate  $(x,y) \rightarrow (x+2, y-4)$



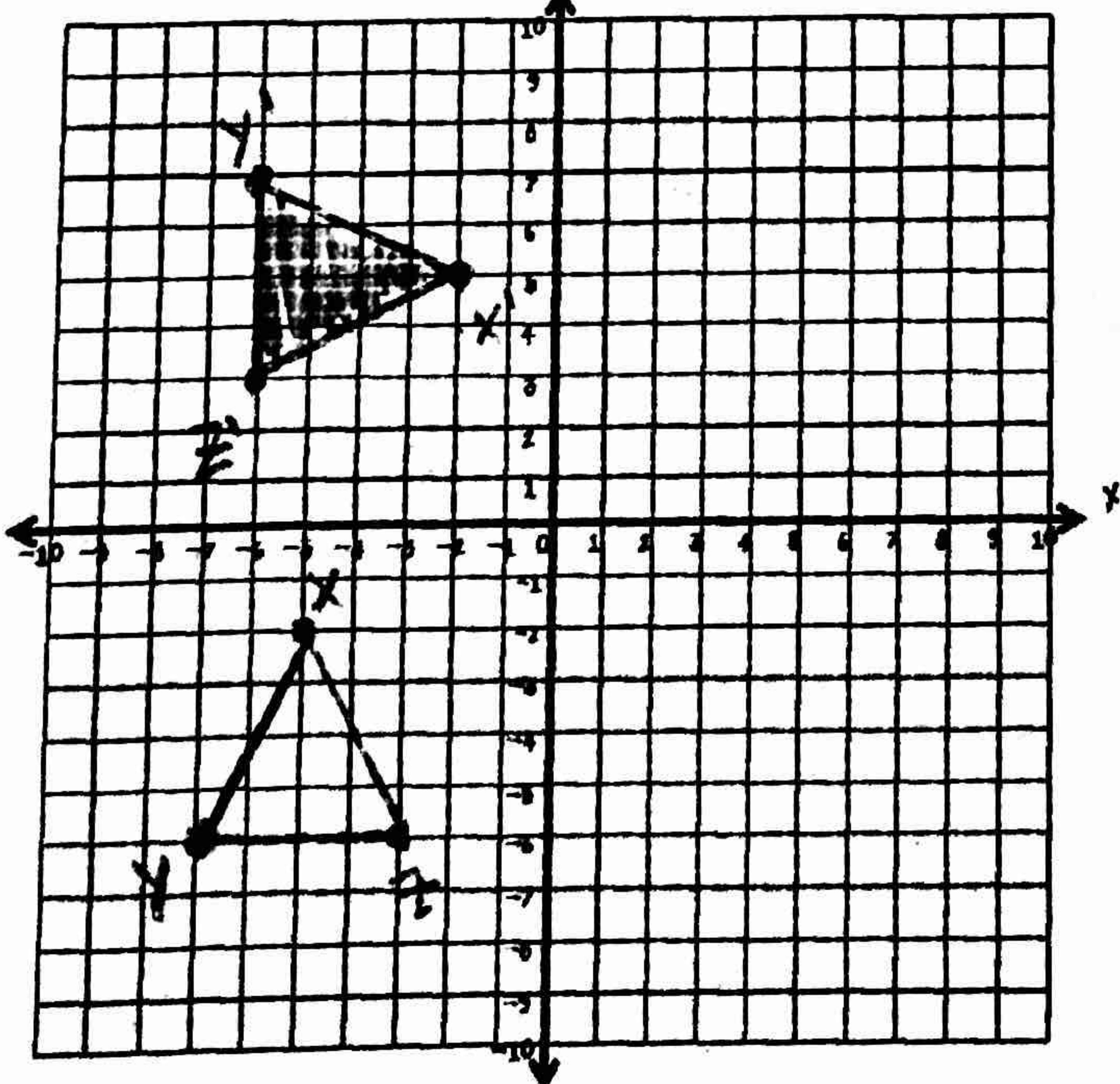
Answer: C Next Card: 4

2 Reflect over X-axis



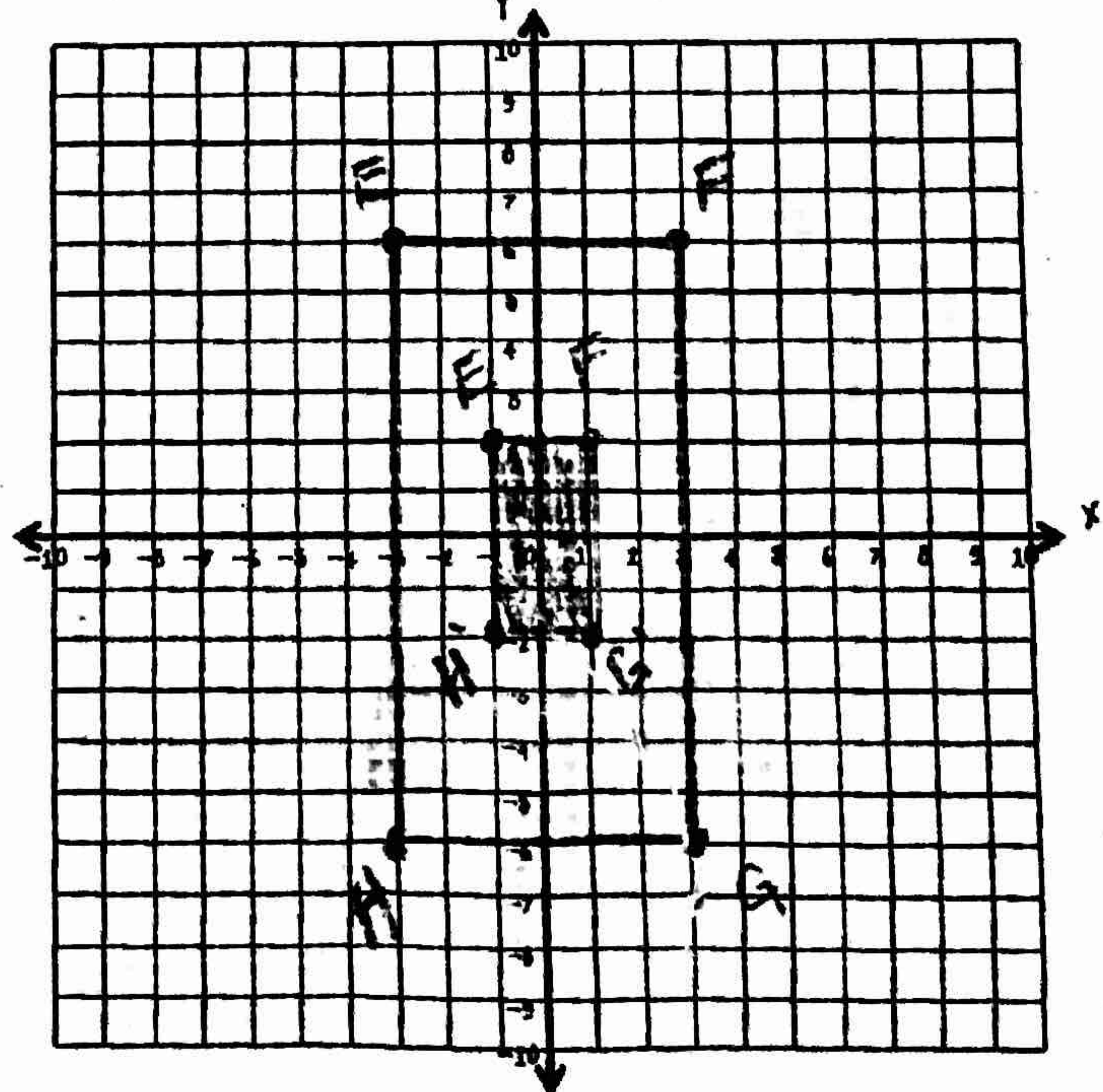
Answer: A Next Card: 10

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



Answer: D Next Card: 9

4 Dilation  $c = \frac{1}{3}$  (shrink)



Answer: B Next Card: 12



# TRANSFORMATIONS

5

left      up

$$A(2, -6) \rightarrow A'(-5, -3)$$

$$B(5, -3) \rightarrow B'(-2, 0)$$

$$C(8, -6) \rightarrow C'(-1, -3)$$

Translate  $(x, y) \rightarrow (x-7, y+3)$

Answer: D Next Card: 8

6

$$A(-4, 6) \rightarrow A'(4, 6)$$

$$B(-6, 1) \rightarrow B'(6, 1)$$

$$C(-2, 1) \rightarrow C'(2, 1)$$

Reflect over y axis  
 $(x, y) \rightarrow (-x, y)$

Answer: C Next Card: 11

7

$$A(2, -6) \rightarrow A'(-2, 6)$$

$$B(7, -6) \rightarrow B'(-7, 6)$$

$$C(2, -2) \rightarrow C'(-2, 2)$$

Rotation  $180^\circ$   
 $(x, y) \rightarrow (-x, -y)$

Answer: A Next Card: 3

8

$$A(-8, -4) \rightarrow A'(-4, -2)$$

$$B(8, -4) \rightarrow B'(4, -2)$$

$$C(6, 4) \rightarrow C'(3, 2)$$

$$D(-6, 4) \rightarrow D'(-3, 2)$$

Dilation  $c = \frac{1}{2}$   $(\frac{1}{2}x, \frac{1}{2}y)$

Answer: B Next Card: 1

9

$$J(10, 4) \rightarrow J'(3, 9)$$

$$K(10, 2) \rightarrow K'(3, 7)$$

$$L(6, 4) \rightarrow L'(-1, 9)$$

$$M(6, 2) \rightarrow M'(-1, 7)$$

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

Answer: D Next Card: 6

10

$$M(-5, -1) \rightarrow M'(5, -1)$$

$$N(-7, -6) \rightarrow N'(7, -6)$$

$$O(-2, -5) \rightarrow O'(2, -5)$$

reflected over y axis  
 $(x, y) \rightarrow (-x, y)$

Answer: A Next Card: 5

11

$$P(-5, 7) \rightarrow P'(-7, -5)$$

$$Q(-8, 7) \rightarrow Q'(-7, -8)$$

$$R(-5, 4) \rightarrow R'(-4, -5)$$

$$S(-8, 4) \rightarrow S'(-4, -8)$$

Rotation  $90^\circ$  CCW  $(x, y) \rightarrow (-y, x)$   
 $270^\circ$  CW

Answer: C Next Card: 2

12

$$T(2, 4) \rightarrow T'(3, 6)$$

$$U(4, 6) \rightarrow U'(6, 9)$$

$$V(4, 8) \rightarrow V'(6, 12)$$

$c = \frac{\text{image}}{\text{pre-image}} = \frac{3}{2} = 1.5$

Answer: C Next Card: 7