

Name _____ Support Exam Review #2: Transformations

Translations (_____)

Notation: a translation of left 3 up 4 can also be written:

Vector notation: $\langle -3, 4 \rangle$

Arrow notation/rule: $(x, y) \rightarrow (x - 3, y + 4)$

1. _____ Which is the same as a translation of right 5 and down 7?

- A. $\langle 5, 7 \rangle$ B. $\langle -5, 7 \rangle$ C. $\langle 5, -7 \rangle$ D. $\langle -5, -7 \rangle$

2. _____ Which is the same as a translation of left 6?

- A. $\langle 6, 0 \rangle$ B. $\langle -6, 0 \rangle$ C. $\langle 0, 6 \rangle$ D. $\langle 0, -6 \rangle$

3. _____ Which is the same as a translation of left 3 down 8?

A. $(x, y) \rightarrow (x + 3, y + 8)$

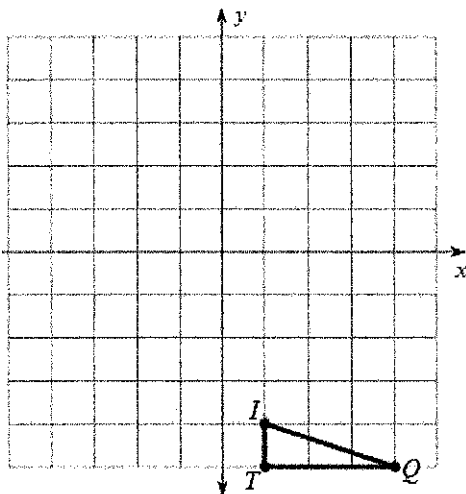
B. $(x, y) \rightarrow (x - 3, y + 8)$

C. $(x, y) \rightarrow (x + 3, y - 8)$

D. $(x, y) \rightarrow (x - 3, y - 8)$

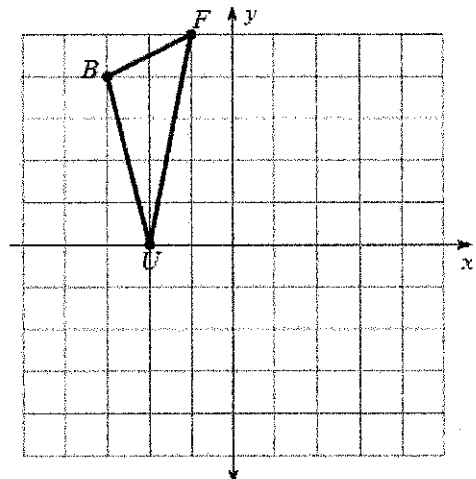
4.

translation: $(x, y) \rightarrow (x - 4, y + 2)$



5.

translation: $(x, y) \rightarrow (x - 1, y)$



Reflections (_____):

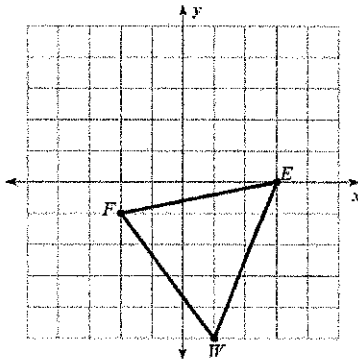
Image should be equidistant from the reflection line

6.

7.

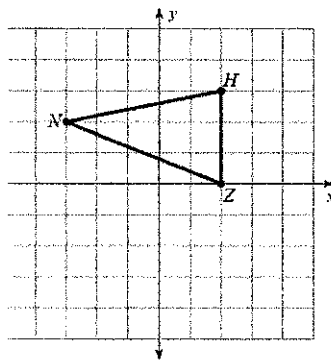
8.

9) reflection across the y-axis



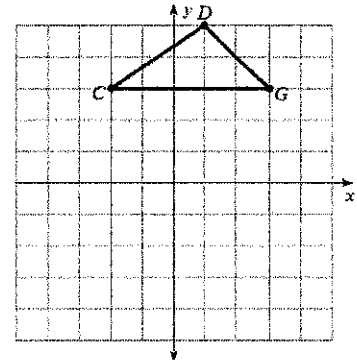
9.

reflection across the x-axis



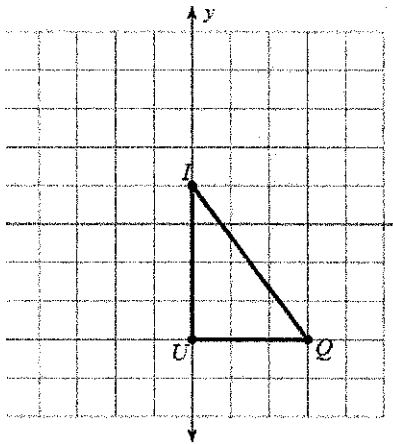
10.

1) reflection across $y = 1$

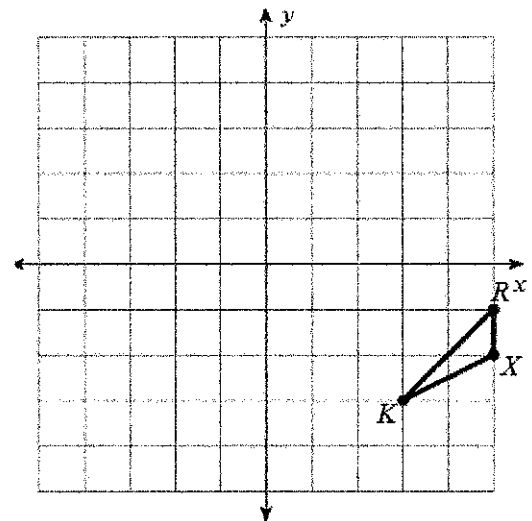
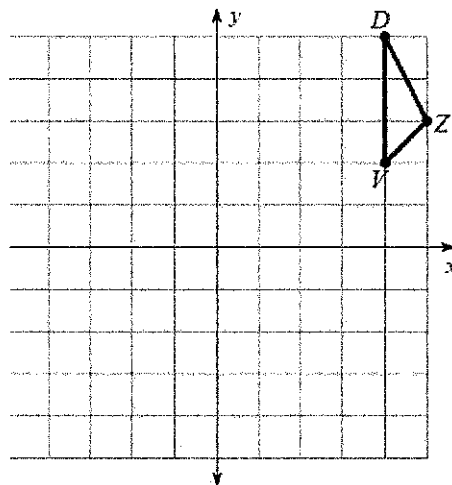


11. Reflect over $y = x$

reflection across $x = 2$

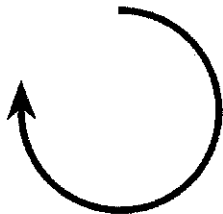


reflection across $y = -x$

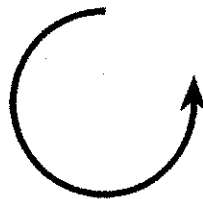


Rotations (_____):

Clockwise:

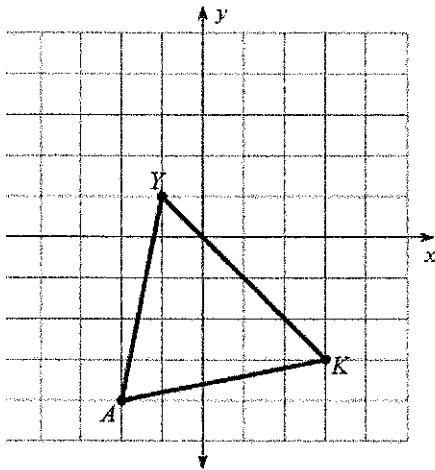


counterclockwise:



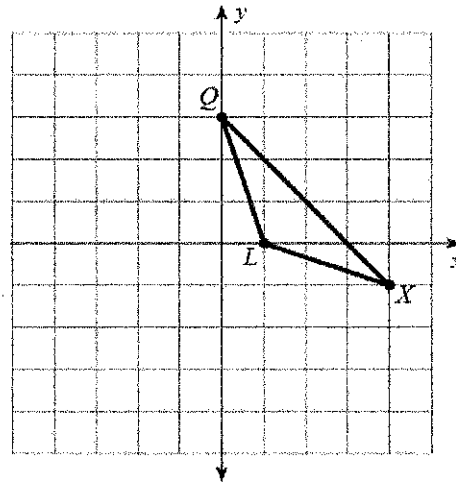
12.

rotation 90° counterclockwise about the origin



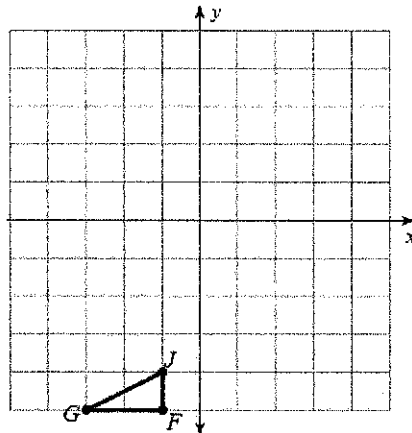
13.

) rotation 180° about the origin



14.

) rotation 90° counterclockwise about the origin

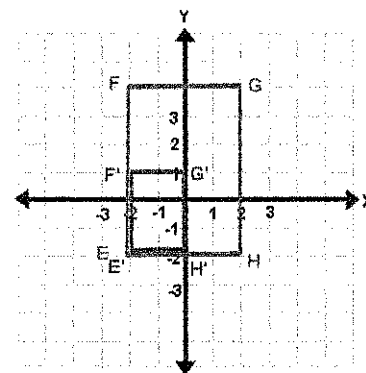


Dilations:

Sides are proportional, angles are congruent, shapes are similar

What is the ratio of FG to $F'G'$?

What is the ratio of $F'G'$ to FG ?

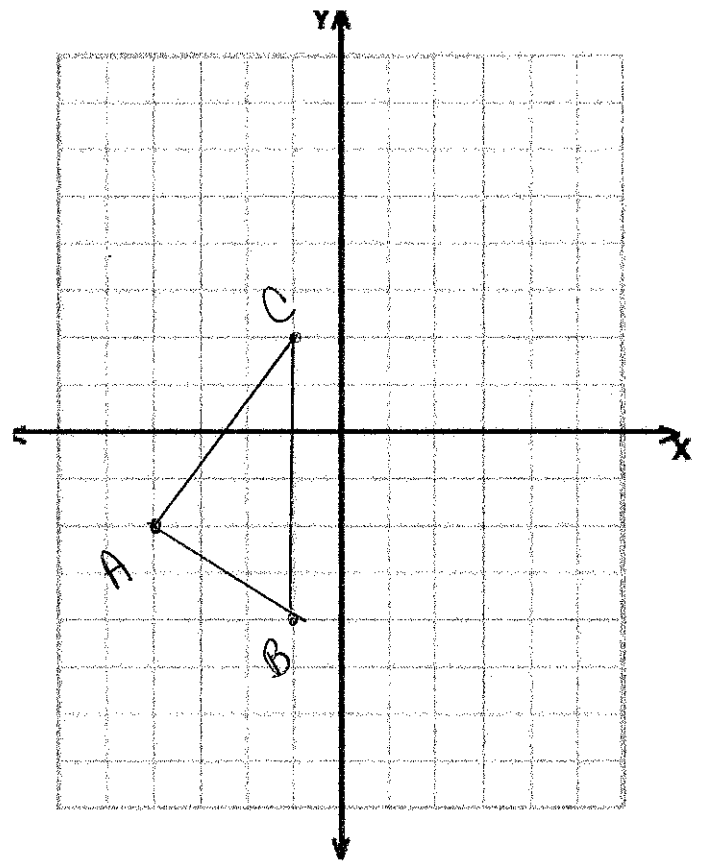


15. Dilate the triangle with scale factor 2, center A

A. List out the pairs of parallel sides

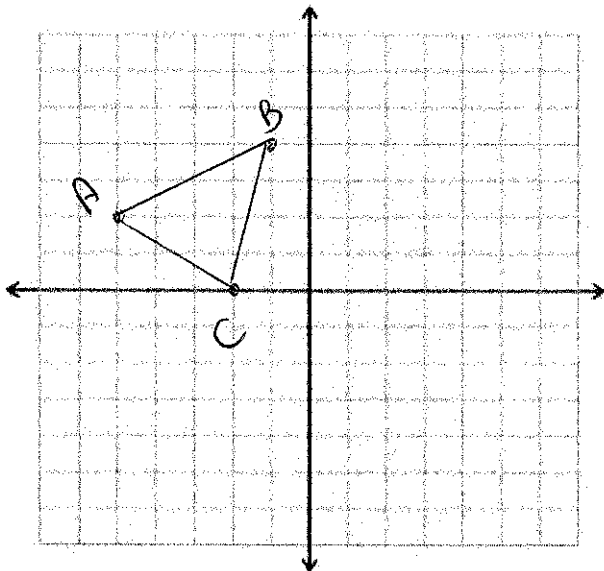
B. list the pairs of congruent angles

C. List the pairs of SIMILAR sides as proportions



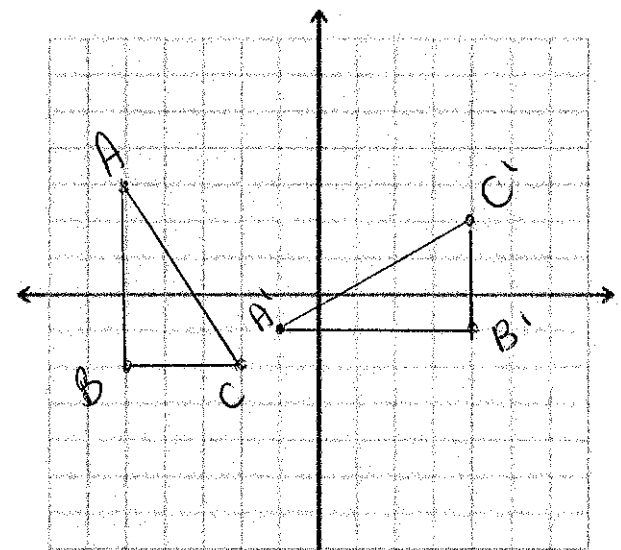
Compositions:

16. Rotate 180° then $\langle -3, 1 \rangle$



A' _____
 B' _____
 C' _____

17. Which set of transformations proves the triangles are congruent?

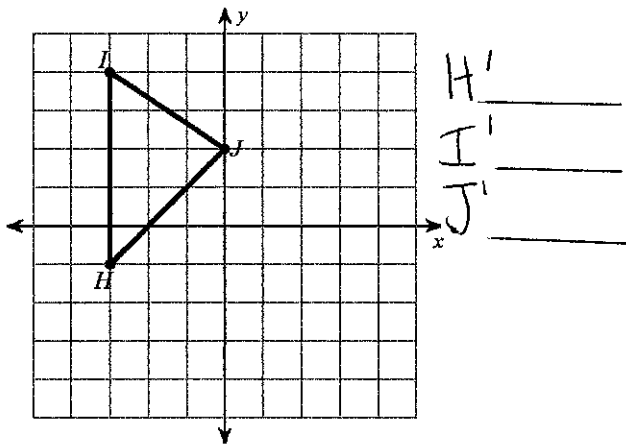


- A) Reflect over y-axis, rotate 90° clockwise
- B) $\langle 3, 5 \rangle$ then rotate 90° counterclockwise
- C) Rotate 90° counterclockwise, $\langle 2, 4 \rangle$

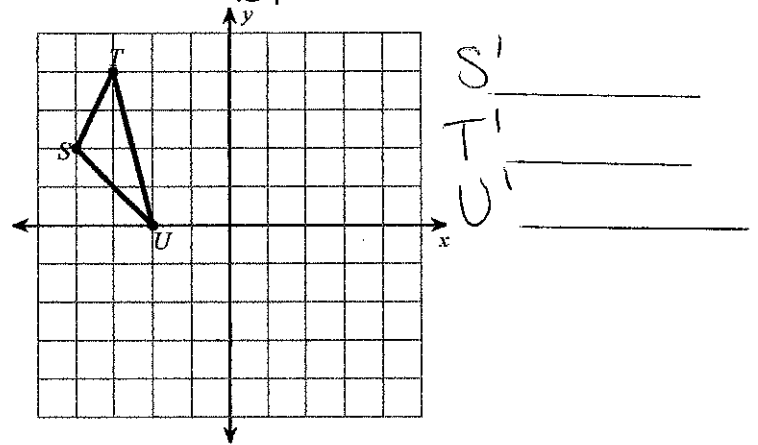
Geometry Support Review 2 Practice

Graph the image of the figure using the transformation given.

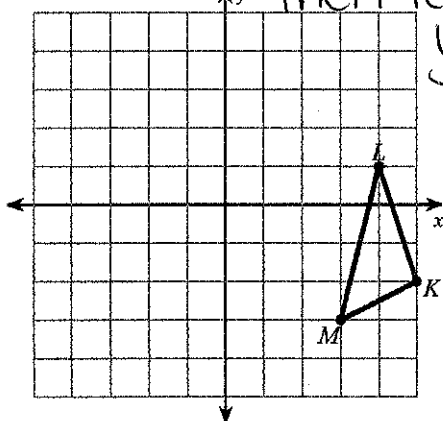
1) translation: $(x, y) \rightarrow (x + 3, y - 3)$



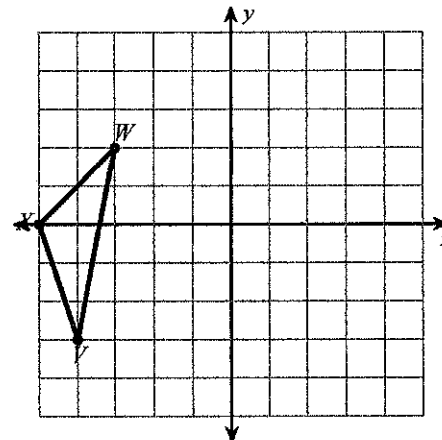
2) translation: $\langle 5, -2 \rangle$



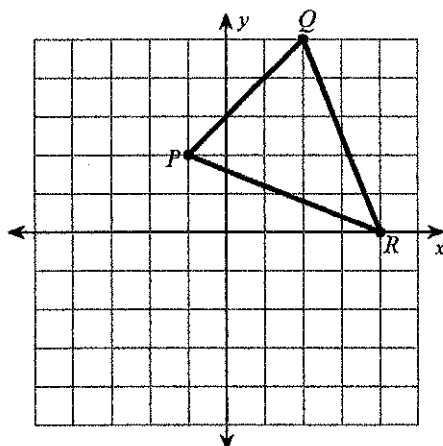
3) Rotate 90° counterclockwise then reflect over $y=1$



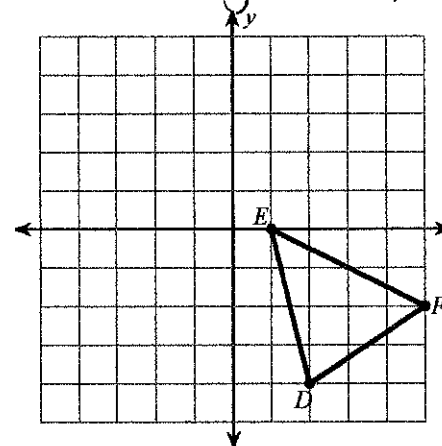
4) rotation 90° counterclockwise about the origin



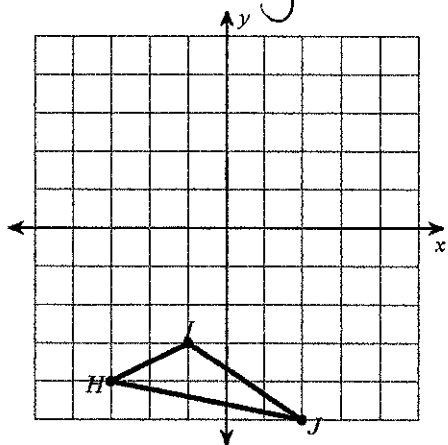
5) rotation 180° about the origin



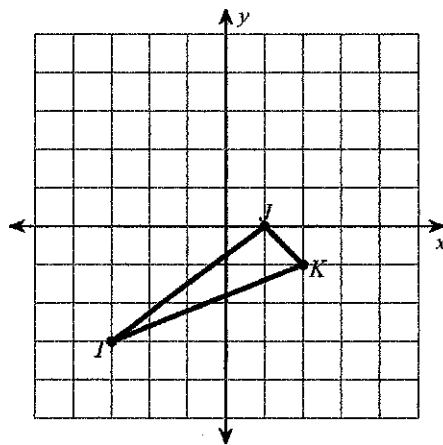
6) Reflect y -axis, then $\langle 1, 4 \rangle$



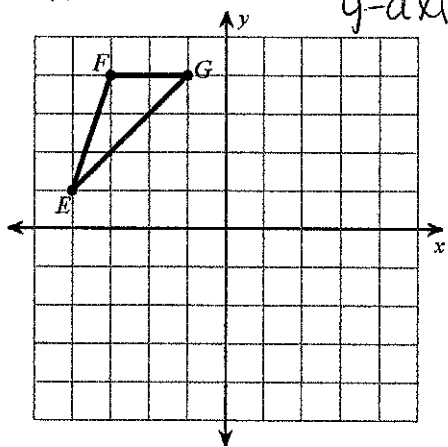
7) reflection across $y = -1$



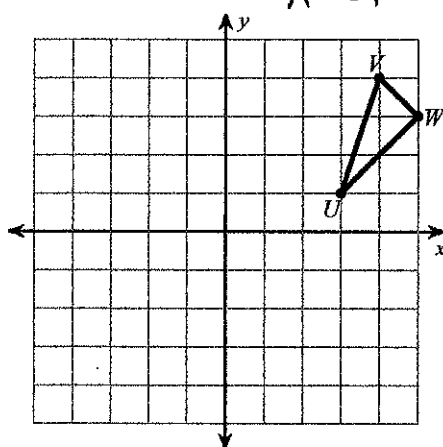
8) reflection across the x -axis



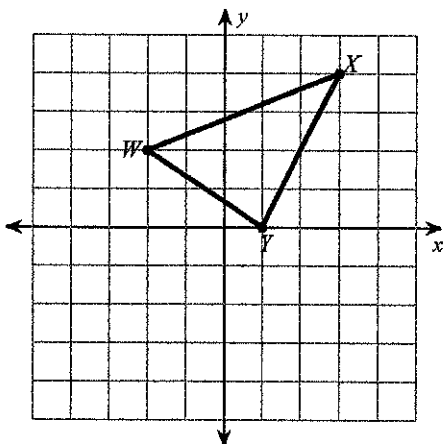
9) Reflect over x -axis, then y -axis



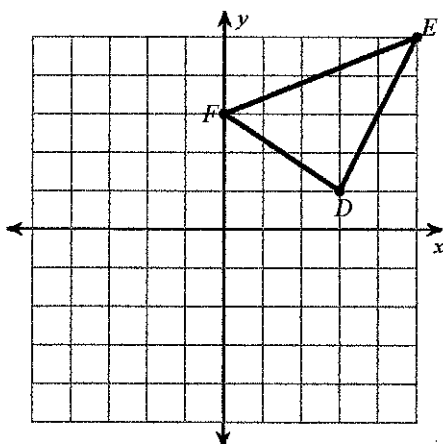
10) reflection across $x = 2$



11) rotation 180° about the origin



12) Dilate Scale Factor 2, center E



$\overline{FD} \parallel$ _____
 $\overline{FD} =$
 A) $\overline{F'D'}$
 B) $2 \cdot \overline{F'D'}$
 C) $3 \cdot \overline{F'D'}$
 D) $\frac{1}{2} \cdot \overline{F'D'}$
 E) $\frac{1}{3} \cdot \overline{F'D'}$

Name Key Support Exam Review #2: Transformations

Translations (Slide)

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Vector notation: $\langle -3, 4 \rangle$

Arrow notation/rule: $(x, y) \rightarrow (x - 3, y + 4)$

1. C Which is the same as a translation of right 5 and down 7?

- A. $\langle 5, 7 \rangle$ B. $\langle -5, 7 \rangle$ C. $\langle 5, -7 \rangle$ D. $\langle -5, -7 \rangle$

2. B Which is the same as a translation of left 6?

- A. $\langle 6, 0 \rangle$ B. $\langle -6, 0 \rangle$ C. $\langle 0, 6 \rangle$ D. $\langle 0, -6 \rangle$

3. D Which is the same as a translation of left 3 down 8?

A. $(x, y) \rightarrow (x + 3, y + 8)$

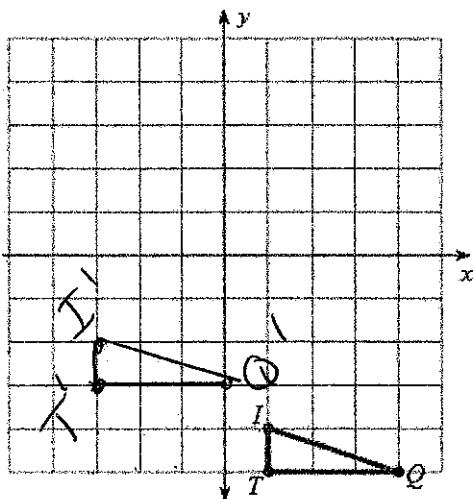
B. $(x, y) \rightarrow (x - 3, y + 8)$

C. $(x, y) \rightarrow (x + 3, y - 8)$

D. $(x, y) \rightarrow (x - 3, y - 8)$

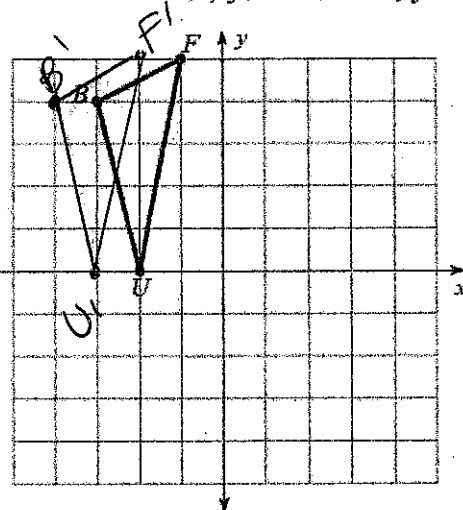
4.

translation: $(x, y) \rightarrow (x - 4, y + 2)$



5.

translation: $(x, y) \rightarrow (x - 1, y)$



Reflections (flip):

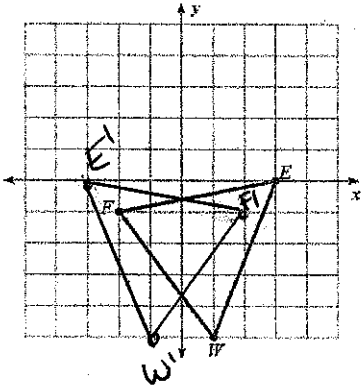
Image should be equidistant from the reflection line

6.

7.

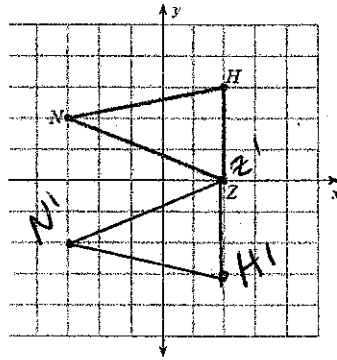
8.

9) reflection across the y-axis



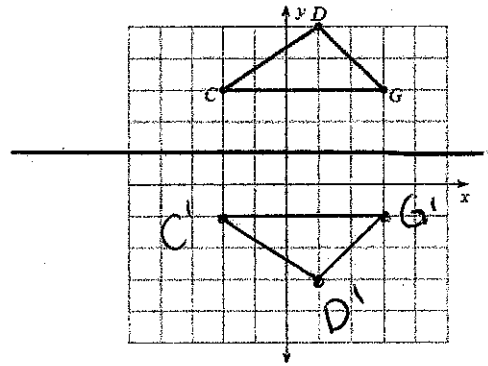
9.

reflection across the x-axis



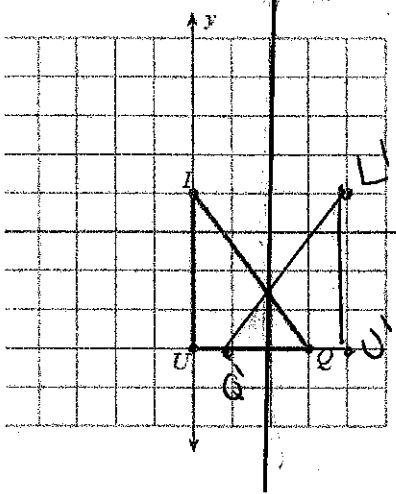
10.

reflection across $y = 1$

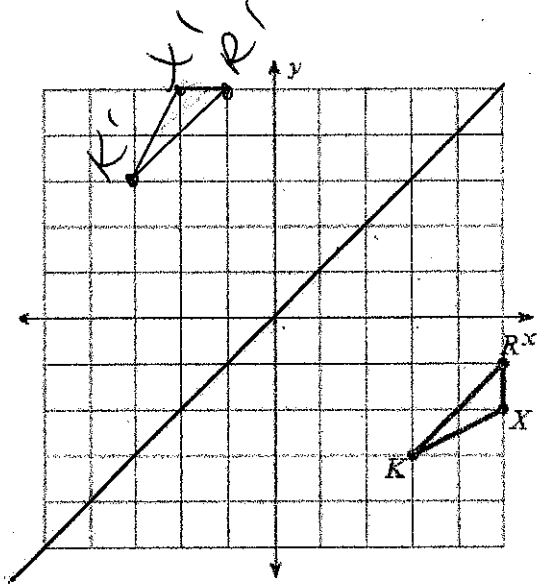
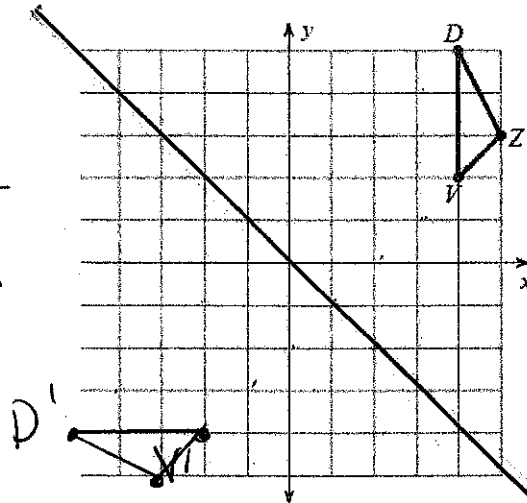


11. Reflect over $y = x$

reflection across $x = 2$



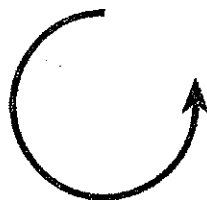
reflection across $y = -x$



Rotations (turn):

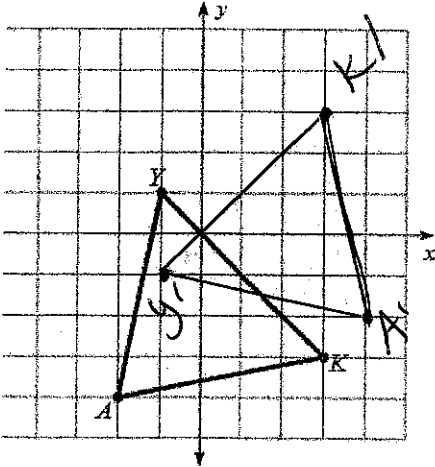
Clockwise:

counterclockwise:



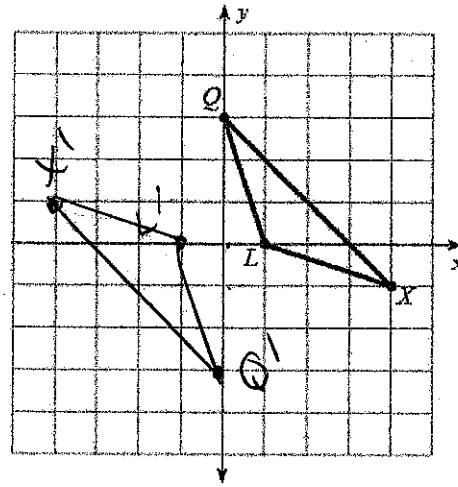
12.

rotation 90° counterclockwise about the origin



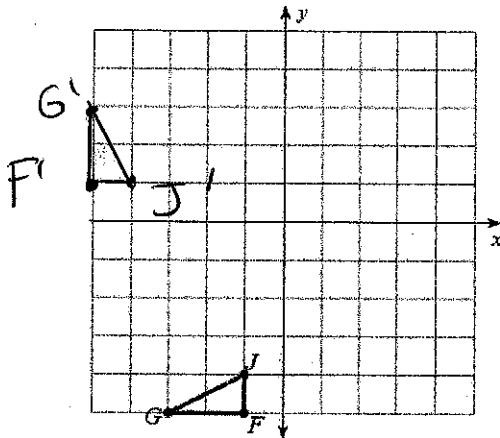
13.

rotation 180° about the origin



14.

rotation 90° counterclockwise about the origin



Dilations:

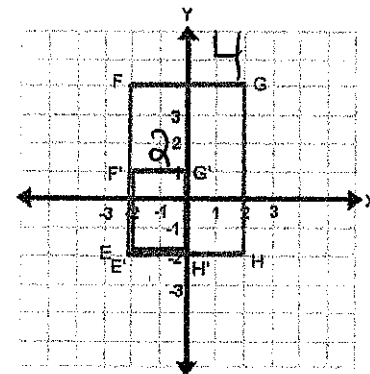
Sides are proportional, angles are congruent, shapes are similar

What is the ratio of FG to F'G'?

$$4/2 = 2$$

What is the ratio of F'G' to FG?

$$2/4 = 1/2$$



15. Dilate the triangle with scale factor 2, center A

A. List out the pairs of parallel sides

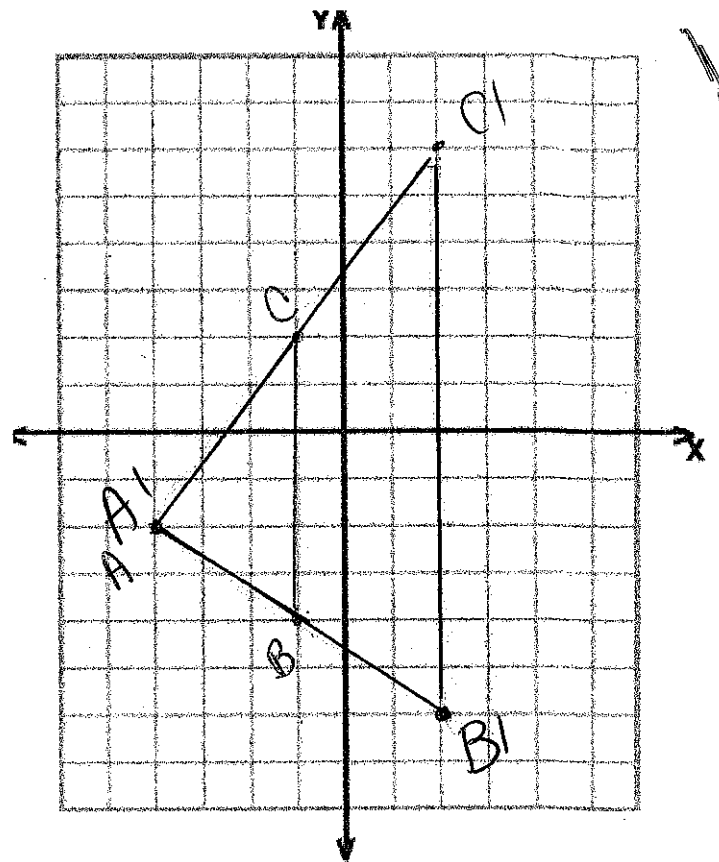
$$\overline{CB} \parallel \overline{C'B'}$$

B. list the pairs of congruent angles

$$\begin{aligned} \angle A &\cong \angle A' \\ \angle B &\cong \angle B' \\ \angle C &\cong \angle C' \end{aligned}$$

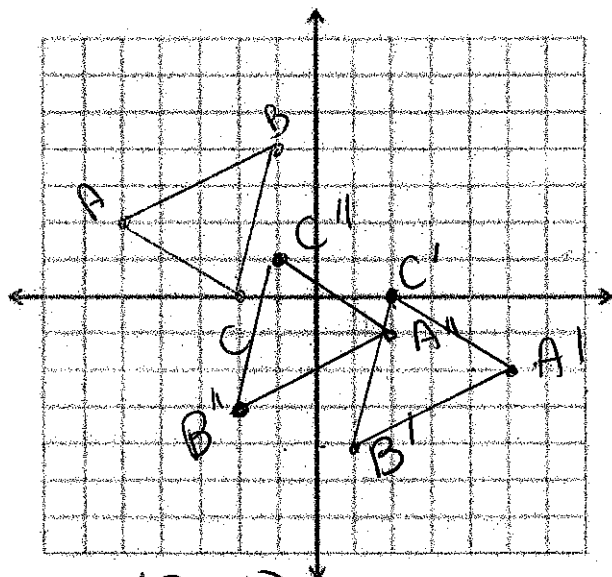
C. List the pairs of SIMILAR sides as proportions

$$\frac{\overline{AC}}{\overline{A'C'}} = \frac{\overline{BC}}{\overline{B'C'}} = \frac{\overline{AB}}{\overline{A'B'}}$$



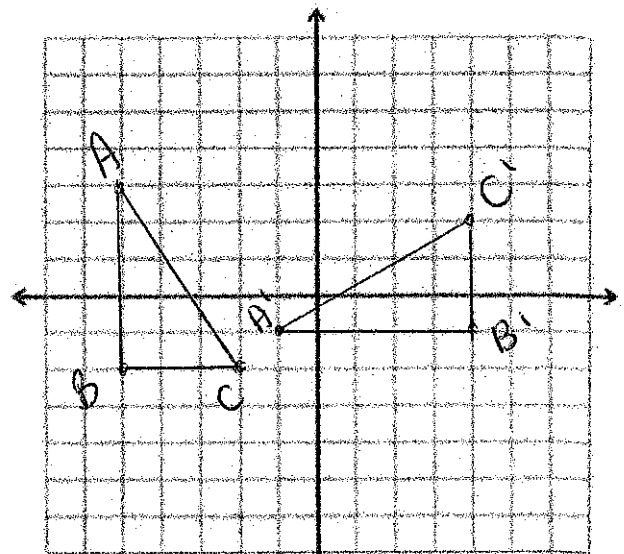
Compositions:

16. Rotate 180° then (-3, 1)



$$\begin{aligned} A'' & (2, -1) \\ B'' & (-2, -3) \\ C'' & (-1, 1) \end{aligned}$$

17. Which set of transformations proves the triangles are congruent?

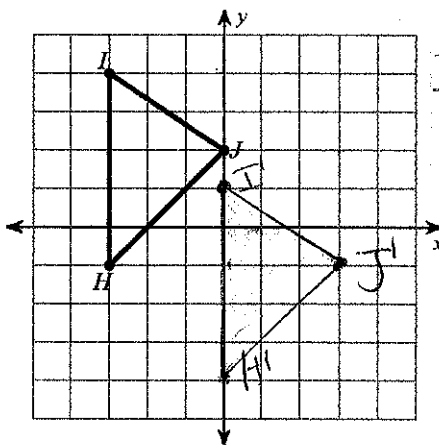


- A) Reflect over y-axis, rotate 90° clockwise
- B) $\langle 3, 5 \rangle$ then rotate 90° counterclockwise
- C) Rotate 90° counterclockwise, $\langle 2, 4 \rangle$

Geometry Support Review 2 Practice

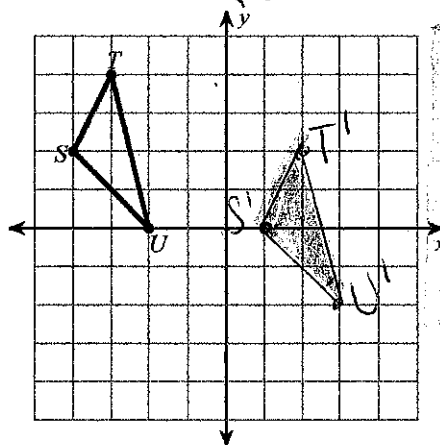
Graph the image of the figure using the transformation given.

1) translation: $(x, y) \rightarrow (x + 3, y - 3)$



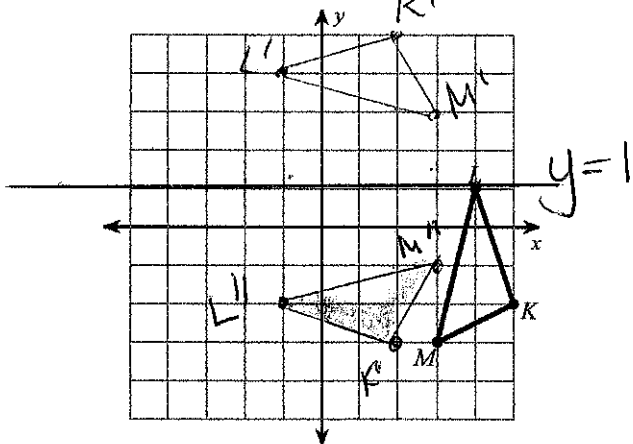
$H'(0, -4)$
 $I' = (0, 1)$
 $J' = (3, -1)$

2) translation: $\langle 5, -2 \rangle$

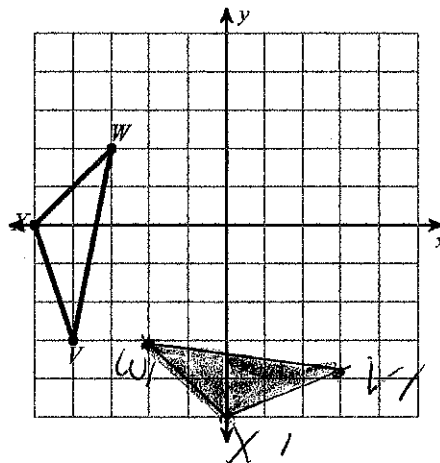


$S' (1, 0)$
 $T' (2, 2)$
 $U' (3, -2)$

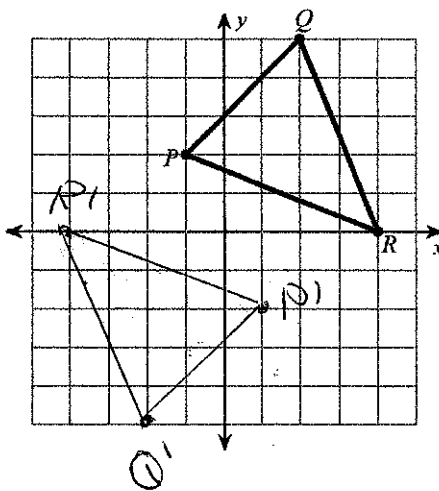
3) Rotate 90° cc, then reflect $y=1$



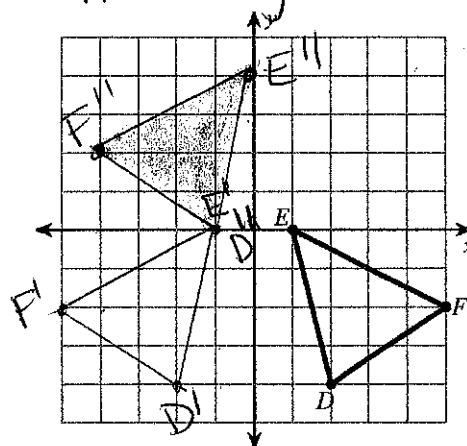
4) rotation 90° counterclockwise about the origin



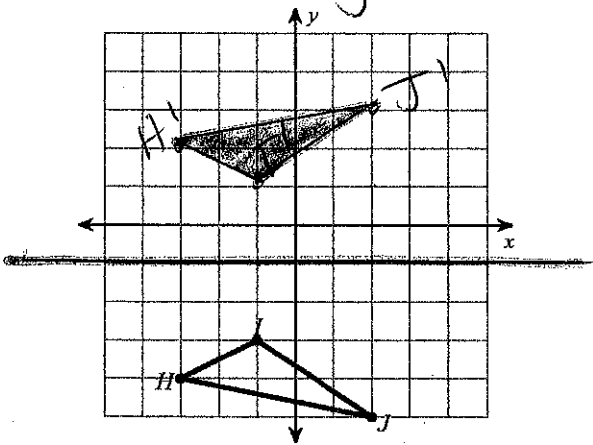
5) rotation 180° about the origin



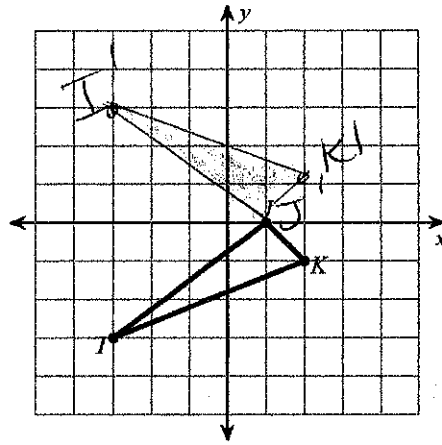
6) Reflect y -axis, $\langle 1, 4 \rangle$



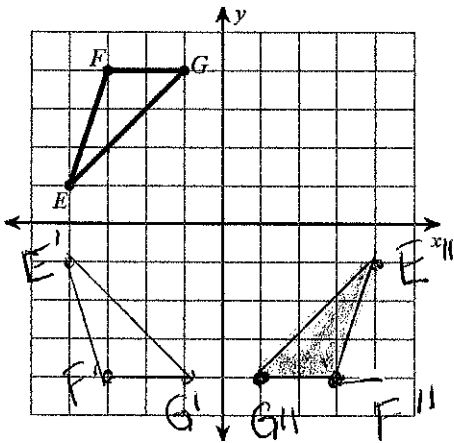
7) reflection across $y = -1$



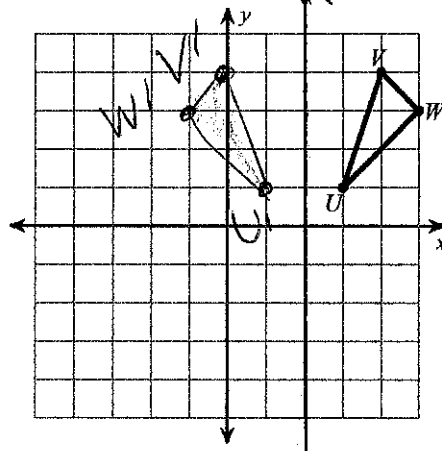
8) reflection across the x -axis



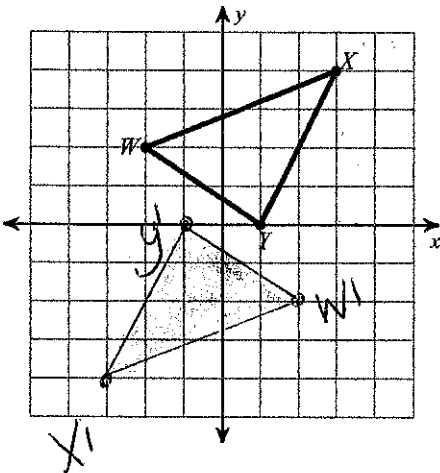
9) Reflect x -axis, then y -axis



10) reflection across $x = 2$



11) rotation 180° about the origin



12) Dilate, $k = 2$, center E

