Name: _____ **Transformation Review**

Multiple Choice

Identify the choice that best completes the statement or answers the question.

____ 1. Write a description of the rule $(x, y) \rightarrow (x+10, y+8)$.

(a) translation 10 units to the right and 8 units up

(b) translation 10 units to the left and 8 units down

(c) translation 10 units to the right and 8 units down

(d) translation 10 units to the left and 8 units up

____ 2. Point *A* (–2, –10) is reflected over the *x*-axis. Write the coordinates of *A'*.

(a) $(2,-10)$

(b) $(2,10)$

(c) $(-2,-10)$

(d) $(-2,10)$

____ 3. Point *D* (2, 4) is rotated 180° about the origin, what is the coordinate of *D'*?

(a) $(-4,2)$

(b) $(4,-2)$

(c) $(-2,-4)$

(d) $(-4,-2)$

____ 4. Which of the following transformations does not result in a congruent figure?

(a) dilation

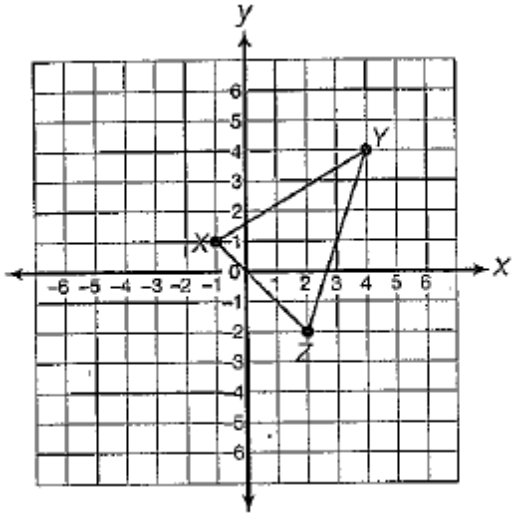
(b) rotation

(c) reflection

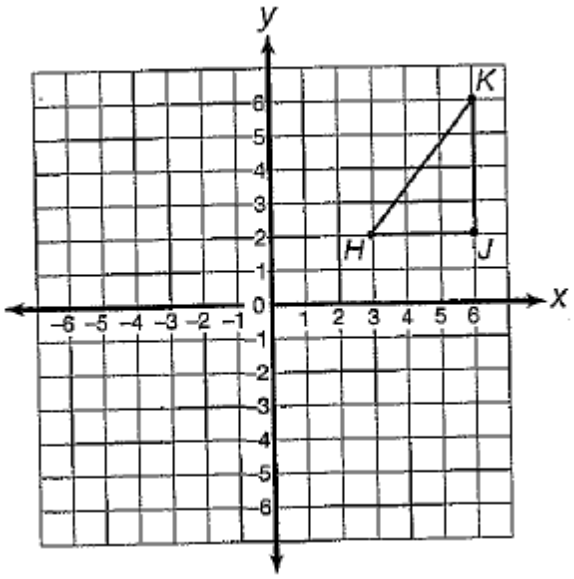
(d) translation

____ 5. What set of coordinates will provide the vertices for the translation of ΔXYZ two units to the left?

(a) $X'(1,1),\ Y'(6,4),\ Z'(4,-2)$
(b) $X'(-3,1),\ Y'(2,4),\ Z'(0,-2)$
(c) $X'(-1,3),\ Y'(4,6),\ Z'(2,0)$
(d) $X'(-3,1),\ Y'(1,4),\ Z'(-2,0)$



____ **6.** If this triangle was reflected over the *y*-axis to form $\Delta H'J'K'$, what would be the coordinates of vertex K'?



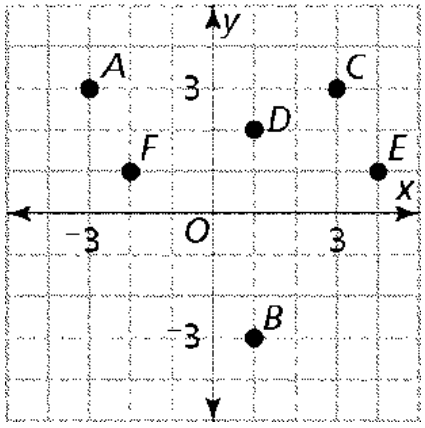
(a) $(6,-6)$

(b) $(6,6)$

(c) $(-6,6)$

(d) $(-6,-6)$

____ **7.** Using the graph below, what is the rule for a translation from point *A* to point *D*?



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

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

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

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

____ **8.** $\overline{CD}$ was dilated around the origin by a scale factor of 2. The endpoints of the image are $C'(4,0)$ and $D'(6,2)$. What are the coordinates of the endpoints of the original line segment?

(a) $C(2,0), D(3,0)$

(b) $C(2,0), D(3,1)$

(c) $C(2,0), D(1,1)$

(d) $C(4,0), D(6,2)$

____ **9.** Point *X* (-3, -2) is translated using the rule $(x, y) \rightarrow (x+3, y+4)$, then reflected over the *x*-axis. What is the coordinate of *X"*?

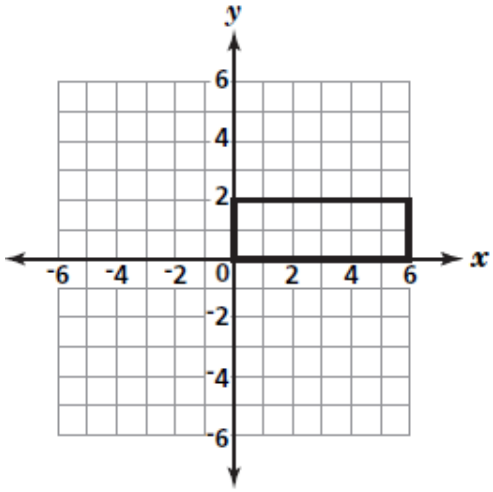
(a) $(0,2)$

(b) $(0,-2)$

(c) $(-2,0)$

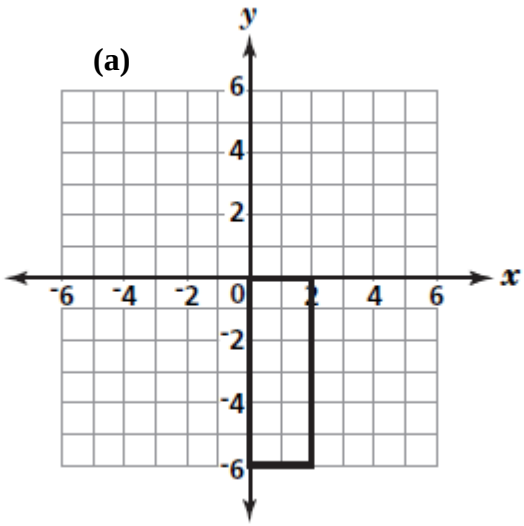
(d) $(2,0)$

____ **10.** A rectangle is plotted on the coordinate plane below.

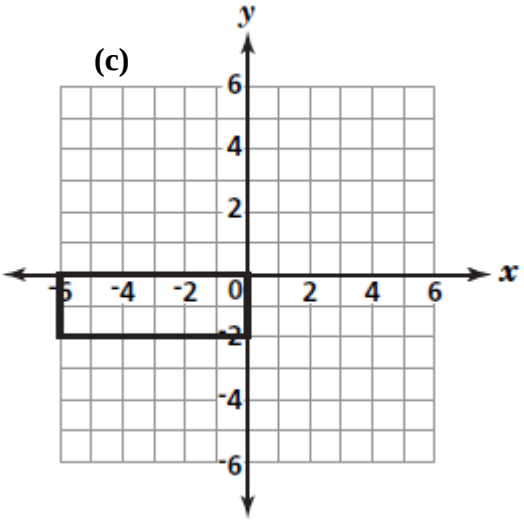


Which image shows a 90° clockwise rotation about the origin?

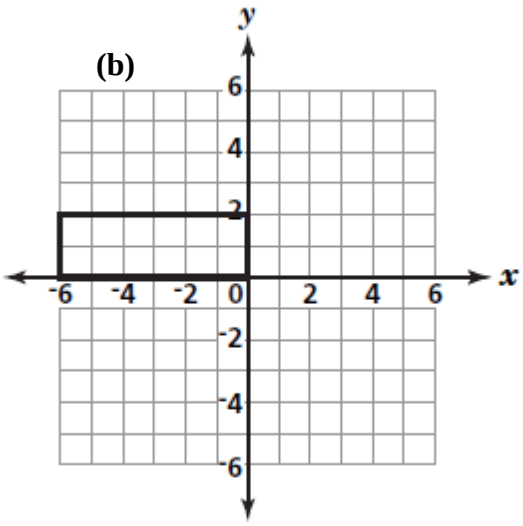
(a)



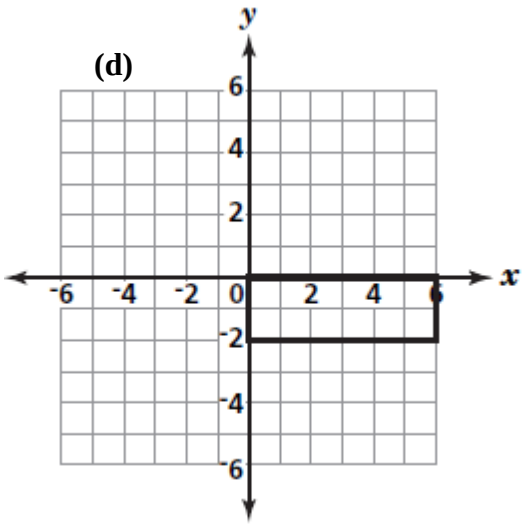
(c)



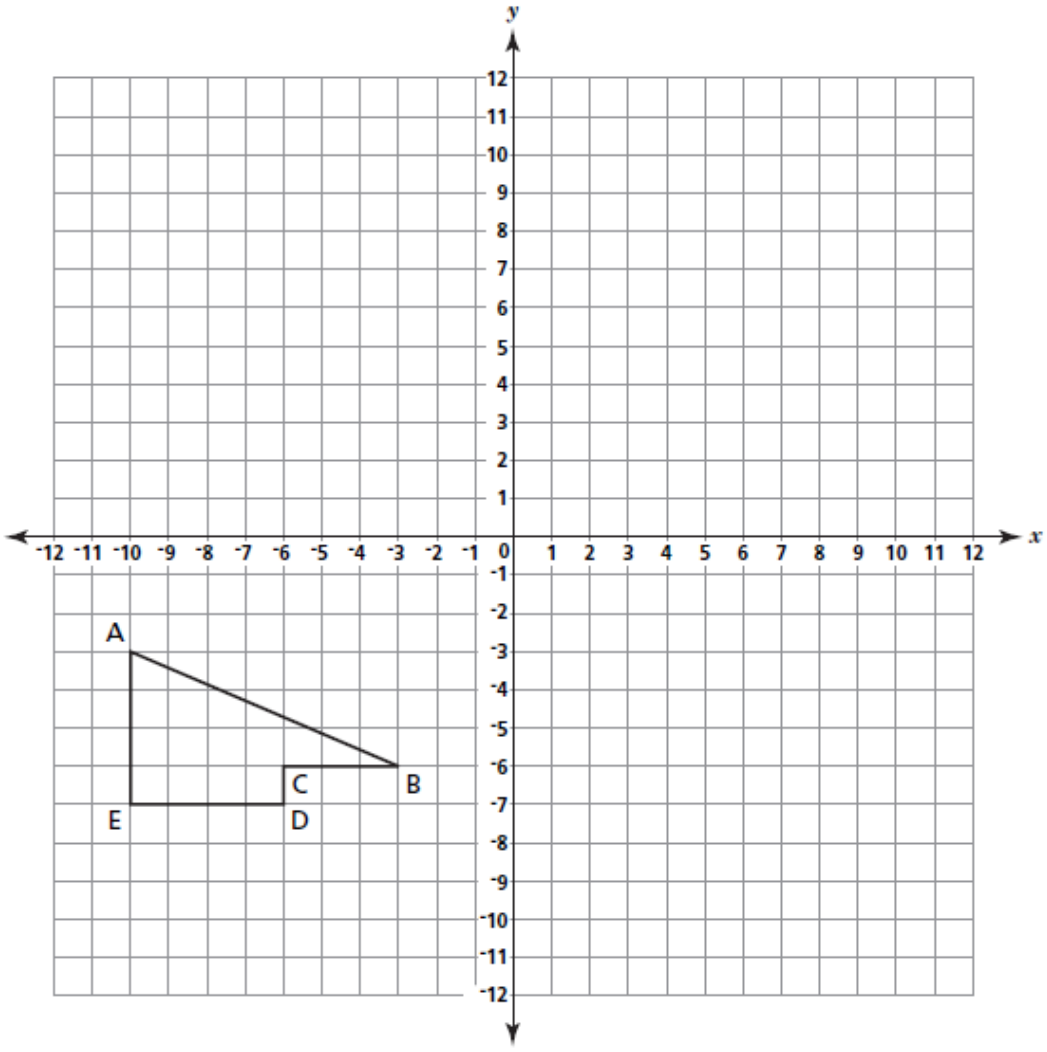
(b)



(d)



11. Polygon *ABCDE* is plotted on the grid below.



Part A

On the graph, draw the translation of polygon *ABCDE* eight units to the right and four units up. Label the image *A'B'C'D'E'*.

Part B

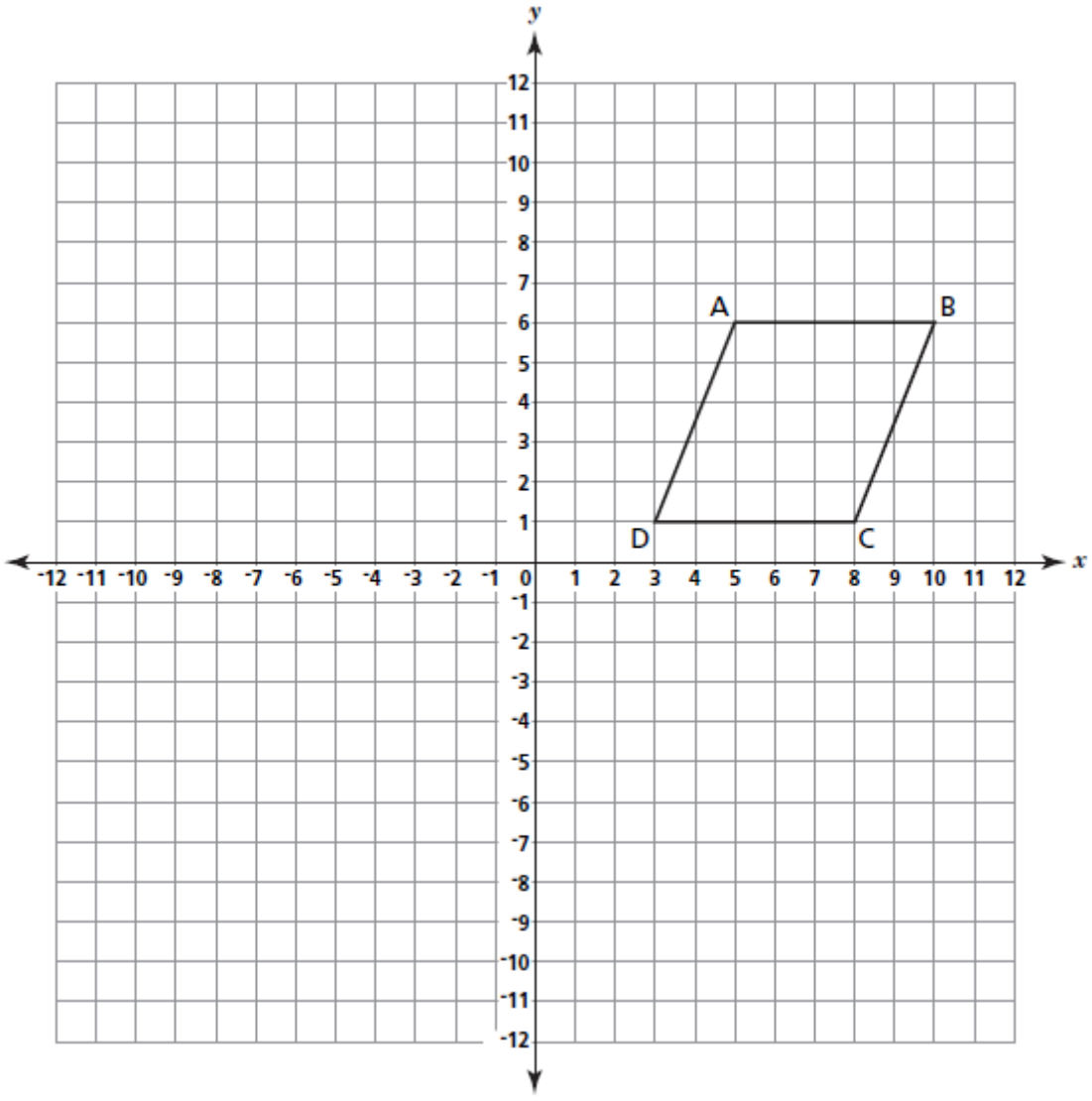
What are the coordinates of *A'*?

Answer _____

Part C

Is the resulting figure similar or congruent to the original figure?

12. Quadrilateral *ABCD* is plotted on the grid below.



Part A

On the graph, draw the image of quadrilateral *ABCD* after a counterclockwise rotation of 90° about the origin. Label the image *A'B'C'D'*.

Part B

On the lines below, explain how the coordinates of *A* changed to the coordinates of A'.

_____

_____

_____

13. The table below shows the coordinates of triangle *HKL*.

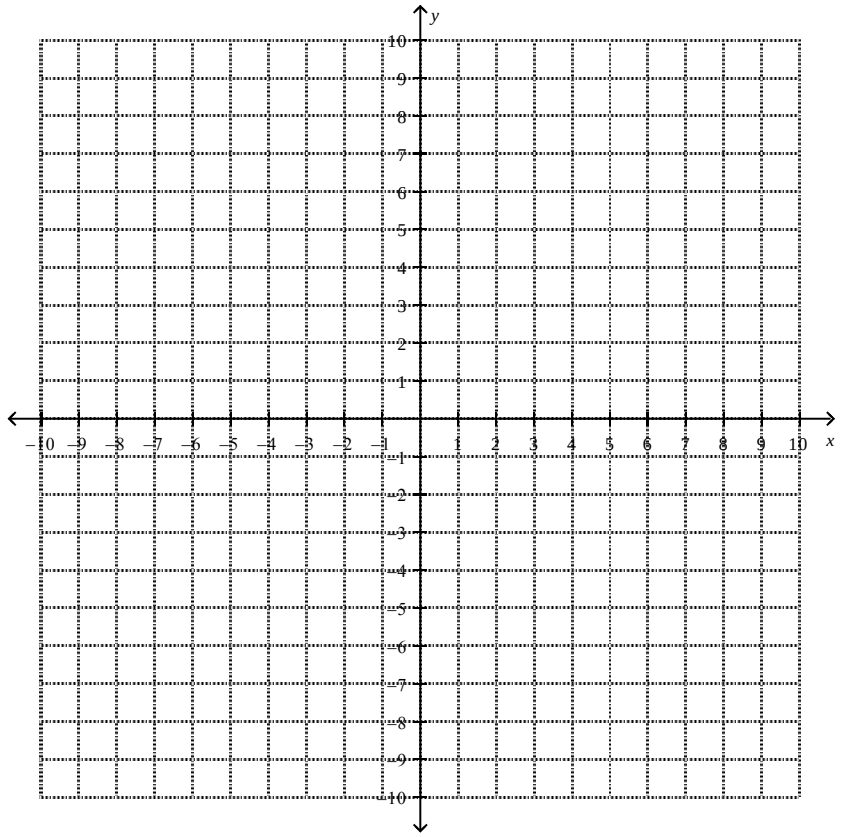
Triangle *HKL*		**Triangle *H'K'L'***	
H	(-2, 3)	***H'***	
K	(4, 2)	***K'***	
L	(3, -2)	***L'***	

Part A

Fill in the table above for the coordinates of *H', K',* and *L'* after a reflection over the *x*-axis.

Part B

On the graph below, draw and label triangle *HKL* and triangle *H'K'L'*.



14. The table below shows the coordinates of triangle *RUN* and the coordinates of *R'* in triangle *R'U'N'*. Triangle *R'U'N'* is a dilation of triangle *RUN*.

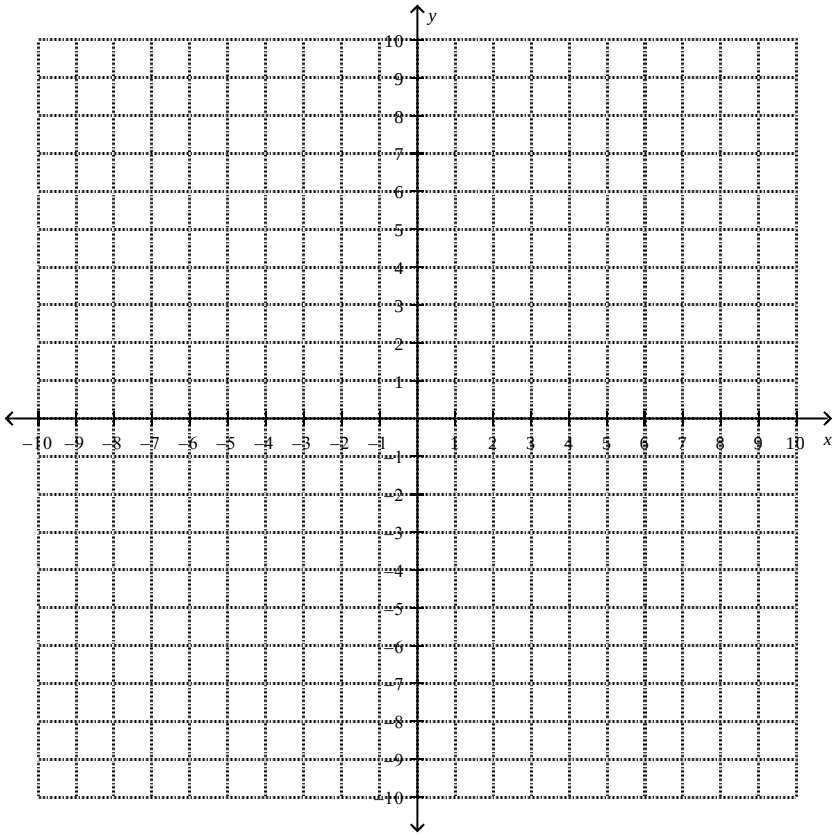
Triangle *RUN*		**Triangle *R'U'N'***	
R	(6, 4)	***R'***	(3, 2)
U	(-8, 0)	***U'***	
N	(2, -2)	***N'***	

Part A

Fill in the table above for the coordinates of point *U'* and point *N'*.

Part B

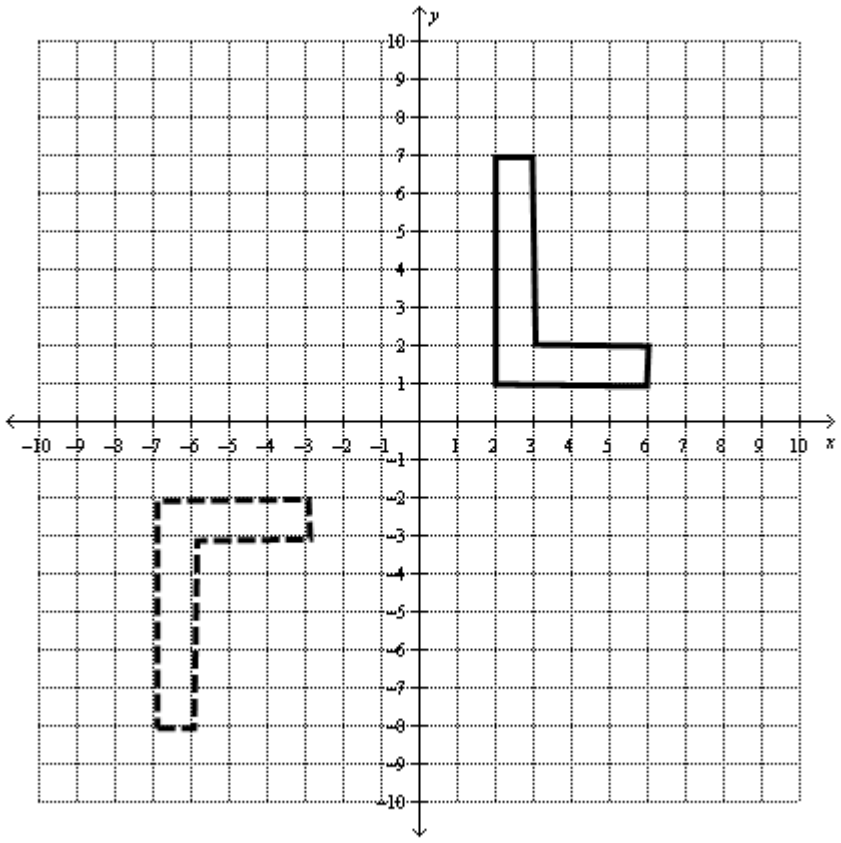
On the graph below, draw and label triangle *R''U''N''* after a translation of *R'U'N'* using the rule $(x, y) \rightarrow (x-2, y+5)$.



Part C

Which part(s) of the resulting figure are congruent to the original?

15. Describe how you could move the solid polygon to exactly match the dashed polygon using a series of two transformations.

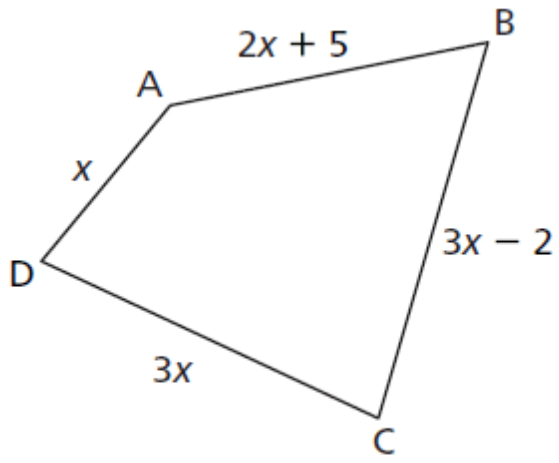


_____

_____

_____

16. In the figure *ABCD* shown below, the total length of the sides equals 93 inches.



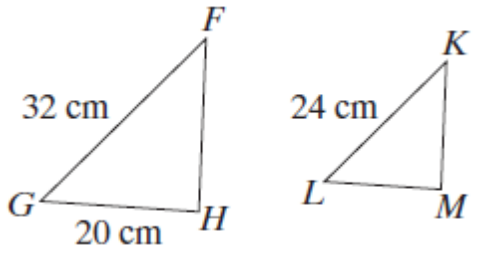
[not drawn to scale]

Find the length of side $\overline{AB}$.

Show your work.

Answer _____ inches

17. **a)** In the figure, $\Delta FGH \sim \Delta KLM$. Find LM.



b) What is the scale factor from ΔKLM to ΔFGH ?

18. Label the missing angle measures. Explain how you arrived at your answer.