

Day 12 - Transformations

Original:

Translate: slide

Reflect: flip

Rotation: turn

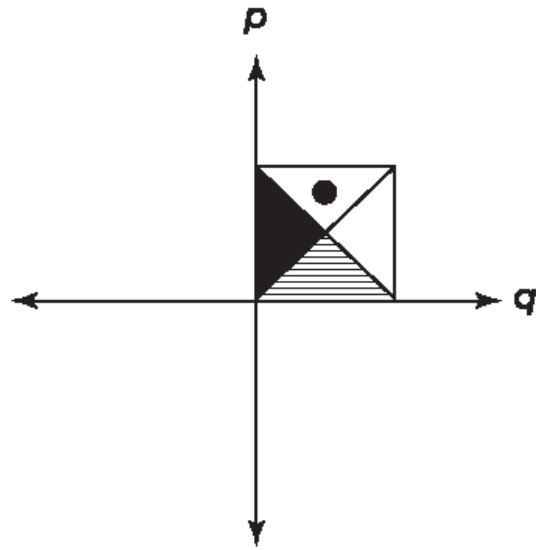
Dilation: enlarge or shrink

OGT Preparation #12
GE06 - Transformations

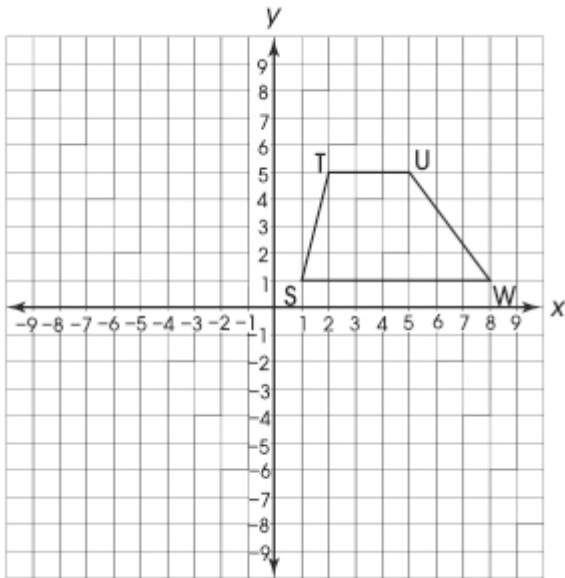
Name _____

1. [SA] By the end of summer vacation, Callie had completed one-fourth of a quilt, as shown in the diagram below. To finish the quilt, Callie plans to reflect the design of the completed portion over lines p and q until all 4 portions are complete.

In your **Answer Document**, copy the diagram above. Add the reflections of the completed portion of the quilt on the same sketch to show how the entire quilt will look when it is finished.



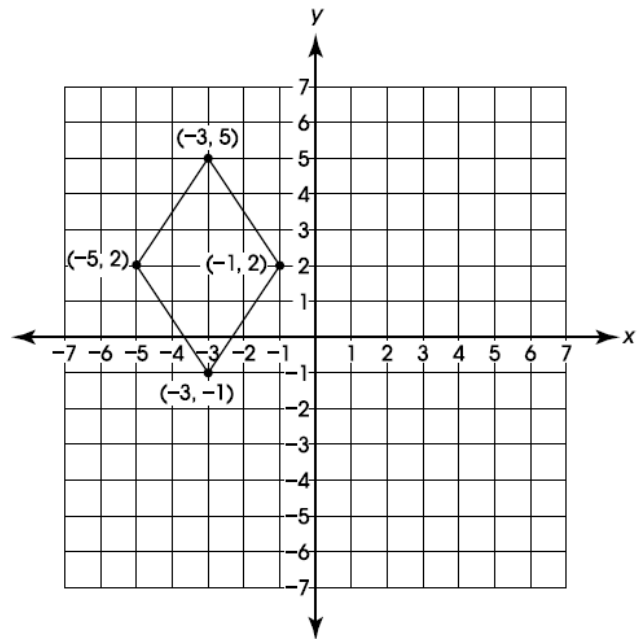
2. The quadrilateral STUW has vertices at the coordinates (1, 1), (2, 5), (5, 5), and (8, 1), as shown.



What are the coordinates of the vertices of quadrilateral STUW when it is reflected over the x -axis?

- A. (1, 1), (2, 5), (5, 5), (8, 1)
- B. (-1, 1), (-2, 5), (-5, 5), (-8, 1)
- C. (-1, -1), (-2, -5), (-5, -5), (-8, -1)
- D. (1, -1), (2, -5), (5, -5), (8, -1)

3. The quadrilateral below is to be translated 6 units to the right and 3 units down.



Which ordered pair is **not** the coordinates for a vertex of the translated image?

- A. (3, -4)
- B. (3, -1)
- C. (3, 2)
- D. (1, -1)

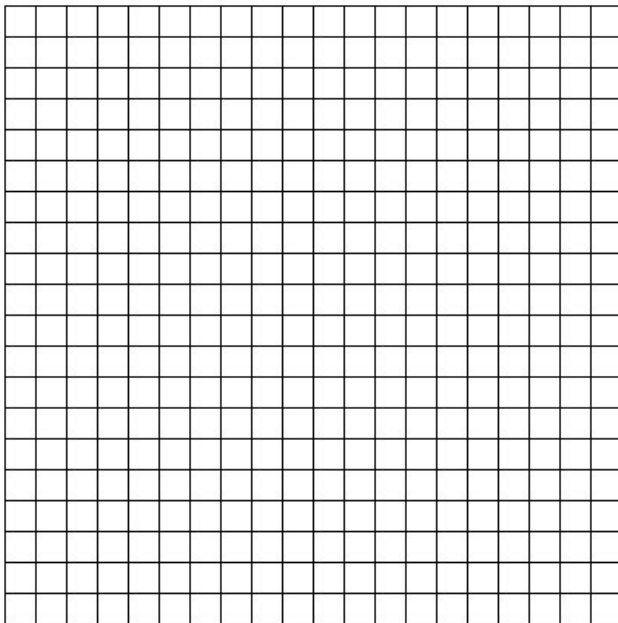
4. [ER] Triangle DEF has vertices with coordinates $D(-2, 1)$, $E(1, 5)$ and $F(2, 3)$.

In your **Answer Document**, draw and label triangle DEF on the grid provided.

Draw the triangle $D'E'F'$ by translating each vertex of triangle DEF three units to the right and two units down. Appropriately label triangle $D'E'F'$.

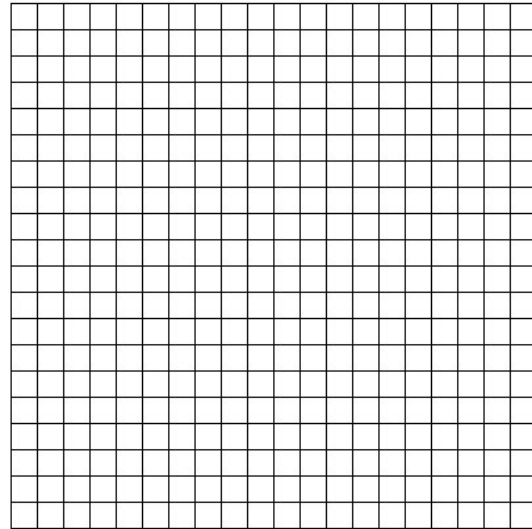
Draw the triangle $D''E''F''$ by translating each vertex of triangle $D'E'F'$ two units to the left and seven units up. Appropriately label triangle $D''E''F''$.

Describe the movements necessary to perform a single translation of each vertex from triangle DEF to triangle $D''E''F''$.

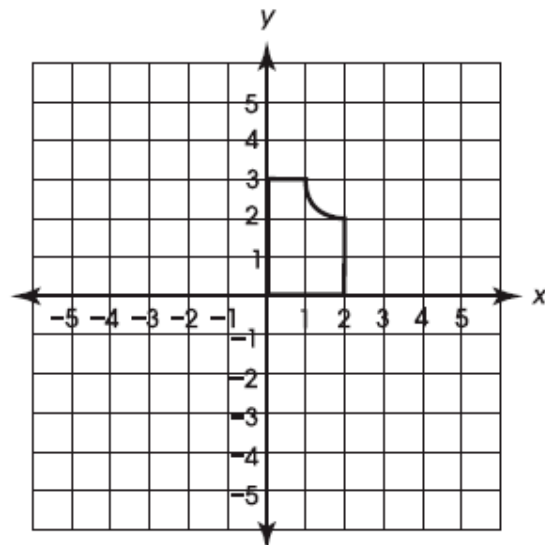


5. The vertices of Triangle I are $(1, 3)$, $(2, 1)$ and $(5, 0)$. Triangle I is reflected across the x -axis, resulting in Triangle II. Triangle II is then rotated 180° about the origin, resulting in Triangle III.

In your **Answer Document**, draw and label Triangles I, II and III on the same coordinate plane. Describe a single transformation that would map Triangle I directly onto Triangle III.



6. Jake is using a computer program to design parts for a new car. He has outlined one-half of a part on a coordinate grid. Rather than drawing the second half, he plans to have the computer reflect this shape over the y -axis.

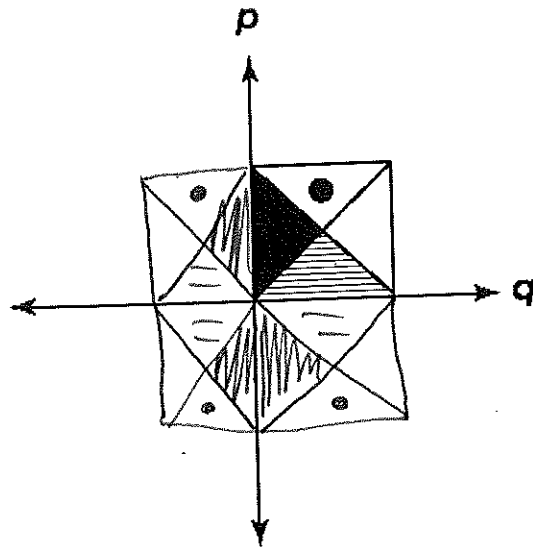


Which of the following represents the 5 vertices of the reflected shape?

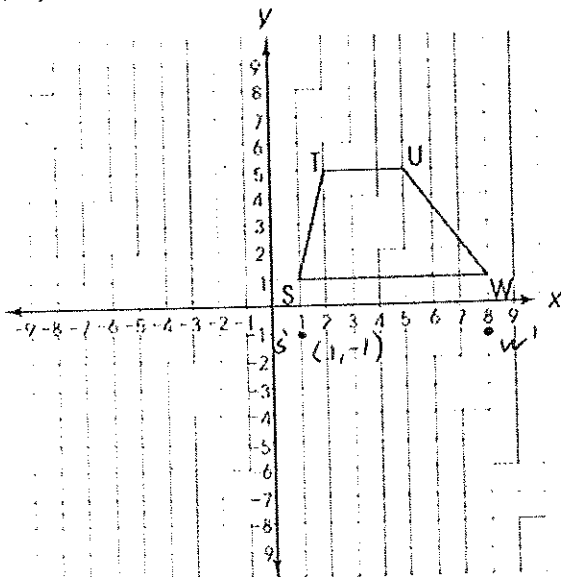
- A. $(0, 0)$; $(0, 2)$; $(-1, 3)$; $(-2, 3)$; $(-2, 0)$
- B. $(0, 0)$; $(0, 3)$; $(-1, 3)$; $(-2, 2)$; $(-2, 0)$
- C. $(0, 0)$; $(0, -3)$; $(1, -3)$; $(2, -2)$; $(2, 0)$
- D. $(0, 0)$; $(0, -3)$; $(-1, -3)$; $(-2, -2)$; $(-2, 0)$

1. [SA] By the end of summer vacation, Callie had completed one-fourth of a quilt, as shown in the diagram below. To finish the quilt, Callie plans to reflect the design of the completed portion over lines p and q until all 4 portions are complete.

In your **Answer Document**, copy the diagram above. Add the reflections of the completed portion of the quilt on the same sketch to show how the entire quilt will look when it is finished.



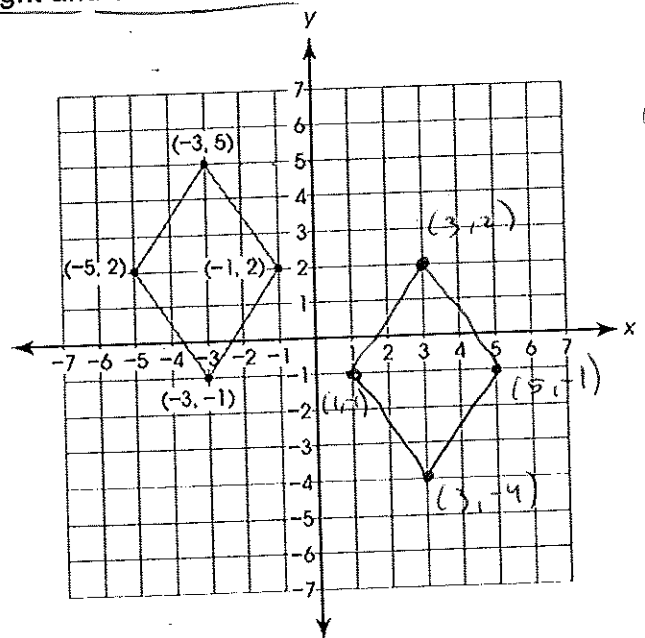
2. The quadrilateral STUW has vertices at the coordinates (1, 1), (2, 5), (5, 5), and (8, 1), as shown.



What are the coordinates of the vertices of quadrilateral STUW when it is reflected over the x -axis?

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- C. (-1, -1), (-2, -5), (-5, -5), (-8, -1)
- D. (1, -1), (2, -5), (5, -5), (8, -1)

3. The quadrilateral below is to be translated 6 units to the right and 3 units down.



Which ordered pair is not the coordinates for a vertex of the translated image?

- A. (3, -4) ✓
- B. (3, -1)
- C. (3, 2) ✓
- D. (1, -1) ✓

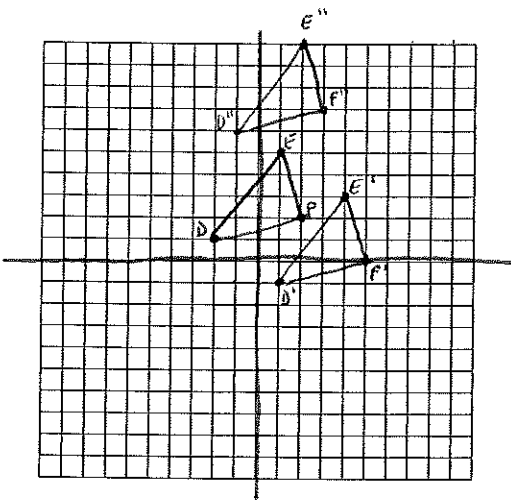
4. [ER] Triangle DEF has vertices with coordinates $D(-2, 1)$, $E(1, 5)$ and $F(2, 3)$.

In your **Answer Document**, draw and label triangle DEF on the grid provided.

Draw the triangle $D'E'F'$ by translating each vertex of triangle DEF three units to the right and two units down. Appropriately label triangle $D'E'F'$.

Draw the triangle $D''E''F''$ by translating each vertex of triangle $D'E'F'$ two units to the left and seven units up. Appropriately label triangle $D''E''F''$.

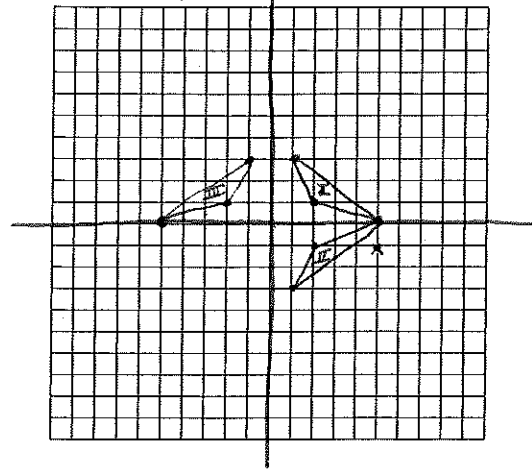
Describe the movements necessary to perform a single translation of each vertex from triangle DEF to triangle $D''E''F''$.



1 R 5 U

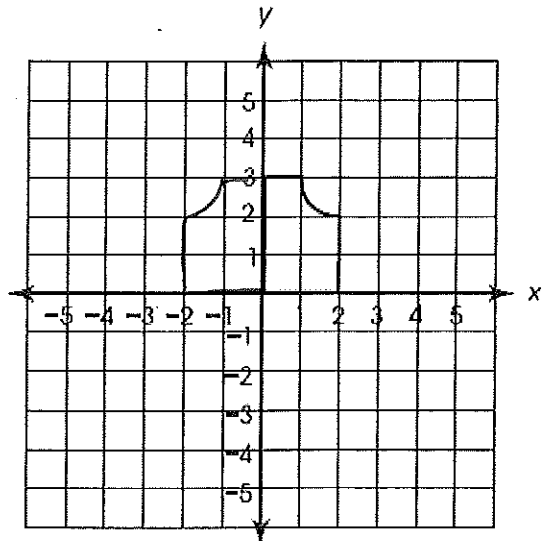
5. The vertices of Triangle I are $(1, 3)$, $(2, 1)$ and $(5, 0)$. Triangle I is reflected across the x -axis, resulting in Triangle II. Triangle II is then rotated 180° about the origin, resulting in Triangle III.

In your **Answer Document**, draw and label Triangles I, II and III on the same coordinate plane. Describe a single transformation that would map Triangle I directly onto Triangle III.



Single reflect over y-axis

6. Jake is using a computer program to design parts for a new car. He has outlined one-half of a part on a coordinate grid. Rather than drawing the second half, he plans to have the computer reflect this shape over the y -axis.



Which of the following represents the 5 vertices of the reflected shape?

A. $(0, 0)$; $(0, 2)$; $(-1, 3)$; $(-2, 3)$; $(-2, 0)$

B. $(0, 0)$; $(0, 3)$; $(-1, 3)$; $(-2, 2)$; $(-2, 0)$

C. $(0, 0)$; $(0, -3)$; $(1, -3)$; $(2, -2)$; $(2, 0)$

D. $(0, 0)$; $(0, -3)$; $(-1, -3)$; $(-2, -2)$; $(-2, 0)$