LESSON MAKER PRO

Move the Shape

Plot images after slides, flips, and turns.

HIGH SCHOOL · GDA.GM.D.22.a

GDA.GM.D.22.a "Given a geometric figure and a rotation, reflection, or translation, draw the image of the transformed figure using graph paper, tracing paper, or geometry software."

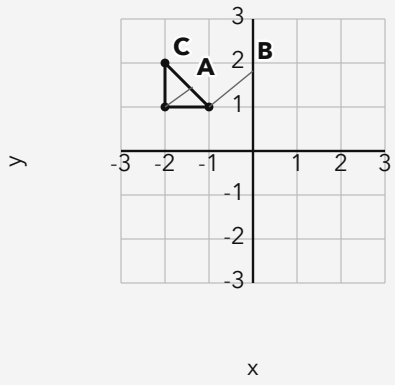
NAME _____ DATE _____

THE BIG IDEA

A transformation moves every vertex by the same rule. Find each new vertex, plot it, then connect the new vertices in the original order.

WORKED EXAMPLE

Translate the triangle right 3 and down 2. Sketch its image and list the new vertices.



1. Add 3 to each x-coordinate.
2. Subtract 2 from each y-coordinate.
3. Plot A'(1, -1), B'(2, -1), and C'(1, 0). Connect them.

Answer: A'(1, -1), B'(2, -1), C'(1, 0)

PRACTICE 4 problems

1 Reflect P(6, 2) across the y-axis. Give P'.

ANSWER _____

2 Rotate Q(4, -3) 180° about the origin. Give Q'.

ANSWER _____

3 Translate R(-5, -1) left 2 and up 3. Give R'.

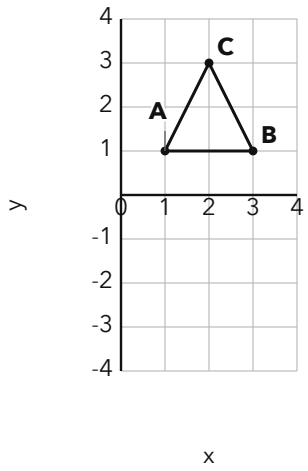
ANSWER _____

4 Rotate S(-2, 5) 90° clockwise about the origin. Give S'.

ANSWER _____

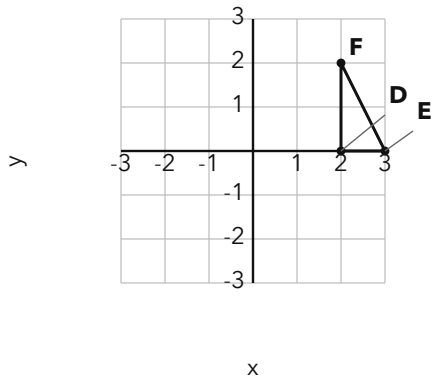
APPLY IT Show your work

1 A sneaker designer flips this logo across the x-axis. Sketch the image on the grid and list its vertices.



ANSWER _____

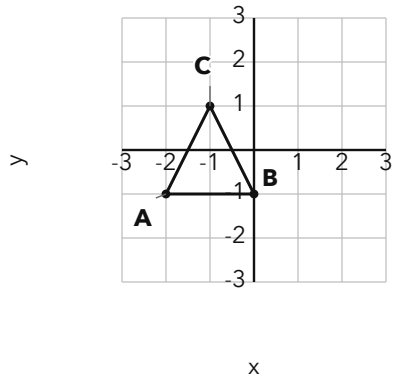
2 A game designer turns this icon 90° counterclockwise about the origin. Sketch its image on the grid and list its vertices.



ANSWER _____

CHALLENGE One step up

Rotate the triangle 90° clockwise about the origin, then translate it right 1. Sketch the final image and list its vertices.



WORK SPACE AND ANSWER

ANSWER KEY

Move the Shape

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Reflect P(6, 2) across the y-axis. Give P'.	**P'(-6, 2)**
2	Rotate Q(4, -3) 180° about the origin. Give Q'.	**Q'(-4, 3)**
3	Translate R(-5, -1) left 2 and up 3. Give R'.	**R'(-7, 2)**
4	Rotate S(-2, 5) 90° clockwise about the origin. Give S'.	**S'(5, 2)**

PART 2 · APPLY IT

1. **A'(1, -1), B'(3, -1), C'(2, -3)** Keep each x-coordinate and change the sign of each y-coordinate. Plot and connect the image vertices.
2. **D'(0, 2), E'(0, 3), F'(-2, 2)** For a 90° counterclockwise turn, each (x, y) becomes (-y, x). Plot and connect the image vertices.

CHALLENGE

Final vertices: A''(0, 2), B''(0, 0), C''(2, 1)

Accept a correctly plotted and connected image even if the student lists vertices in a different order. For the challenge, accept single-prime labels for the final image.