LESSON MAKER PRO

Mirror Map Moves

Plot points and find their reflections.

GRADE 6 · 6.A.1.1

6.A.1.1 "Plot integer- and rational-valued (limited to halves and fourths) ordered-pairs as coordinates in all four quadrants and recognize the reflective relationships among coordinates that differ only by their signs."

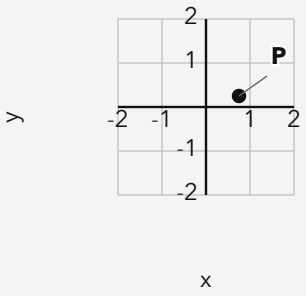
NAME _____ DATE _____

THE MIRROR RULE

An ordered pair (x, y) tells you where to plot a point: move along the x-axis first, then up or down. A reflection across the x-axis changes the sign of y. A reflection across the y-axis changes the sign of x.

WORKED EXAMPLE

Point P is plotted. Find its reflection across the y-axis.



1. Read P as (3/4, 1/4).
2. Change the sign of x.
3. Keep y the same.

Answer: (-3/4, 1/4)

PRACTICE 4 problems

1 Which quadrant contains (5/4, -1/2)?

ANSWER _____

2 Reflect (-7/4, 3/2) across the y-axis. Write the new coordinates.

ANSWER _____

3 Reflect (2, -3/2) across the x-axis. Write the new coordinates.

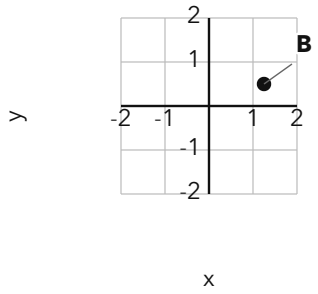
ANSWER _____

4 Which quadrant contains M at (-1/2, -2)? Where is M after a reflection across the y-axis?

ANSWER _____

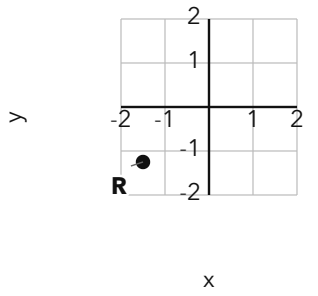
APPLY IT Show your work

1 In a game, B marks a power-up. Plot a second power-up reflected across the x-axis. Write its coordinates.



ANSWER _____

2 A drone's map marks a photo spot at R. Plot a second spot reflected across the x-axis. Write its coordinates.



ANSWER _____

CHALLENGE One step up

A reflection of T across the y-axis is (7/4, -1/2). Find T. Then find T's reflection across the x-axis. Explain which sign changes each time.

WORK SPACE AND ANSWER

ANSWER KEY

Mirror Map Moves

GRADE 6 · 6.A.1.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Which quadrant contains (5/4, -1/2)?	**Quadrant IV**
2	Reflect (-7/4, 3/2) across the y-axis. Write the new coordinates.	**(7/4, 3/2)**
3	Reflect (2, -3/2) across the x-axis. Write the new coordinates.	**(2, 3/2)**
4	Which quadrant contains M at (-1/2, -2)? Where is M after a reflection across the y-axis?	**Quadrant III; (1/2, -2)**

PART 2 · APPLY IT

1. **(5/4, -1/2)** B is at (5/4, 1/2). Keep x and change the sign of y.
2. **(-3/2, 5/4)** R is at (-3/2, -5/4). Keep x and change the sign of y.

CHALLENGE

T is (-7/4, -1/2). Its reflection across the x-axis is (-7/4, 1/2). The y-axis reflection changes the sign of x; the x-axis reflection changes the sign of y.

For plotted answers, accept a point at the correct grid location even if its label differs. Accept equivalent fraction forms.