Name_____ Date_____ Period_____

LESSON 7-5 · SESSION 2 · PRACTICE · FORM B

Reflecting Points Across Axes

Learning target – I can reflect a point across the x-axis or the y-axis and name the new coordinates. · 6.NS.C.6b

REMEMBER

- A **reflection** flips a point like a mirror image. Only **one** coordinate changes sign.
- Across the **x-axis**, y changes sign: (4, 1) becomes (4, −1). Across the **y-axis**, x changes sign: (4, 1) becomes (−4, 1).
- A point and its image are the same distance from the mirror: (−5, 2) and (5, 2) are 5 + 5 = 10 units apart.

WORKED EXAMPLE

Reflect (7, −2) across each axis separately.

Step 1 Across the x-axis: keep x = 7, change −2 to 2. Image: (7, 2).

Step 2 Across the y-axis: keep y = −2, change 7 to −7. Image: (−7, −2).

Answer **(7, 2) and (−7, −2)**

WORDS **reflection** *(reflexión)* · **x-axis** *(eje x)* · **y-axis** *(eje y)*

PRACTICE

show your work · label units

1. Write the image after each reflection.

a. (6, 2) across the x-axis _____

b. (−5, 7) across the y-axis _____

c. (8, −3) across the x-axis _____

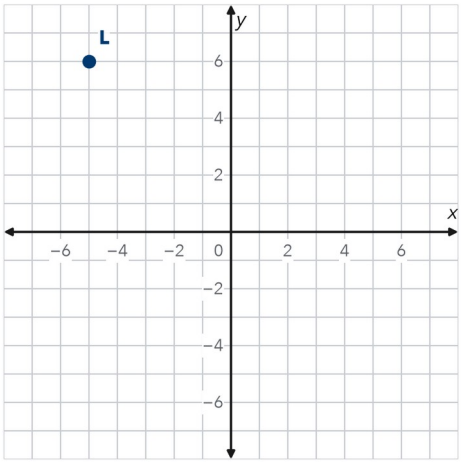
d. (−10, −5) across the y-axis _____

2. **Mirror Room.** Ms. Rivera's floor plan puts lamp L at (−5, 6). One mirror lies along each axis.

Hint *Plot each image to check your answer.*

a. Across the x-axis: (___ , ___) Quadrant ___

b. Across the y-axis: (___ , ___) Quadrant ___



3. **Two Kites.** Maya's kite flies over (−7, 2). Omar's kite is its reflection across the y-axis. Where is Omar's kite? How far apart are the kites?

Hint *7 units to the mirror, then 7 more.*

Kite, distance_____

4. **Stage Lights.** A light hangs over (−6, 9). A second light is its reflection across the x-axis. Where is it? How far apart are the lights?

Light 2, distance_____

5. Which Mirror? Point P is at (−4, 7) and point Q is at (4, 7). Across which axis are they reflections? How do the coordinates show it?

Hint *Which coordinate changed sign?*

6. Ana's Image. Ana says reflecting (4, −5) across the y-axis gives (4, 5). What did she mix up? Write the correct image.

Hint *Across the y-axis, y stays the same.*

Show your work.

Image_____

7. Double Flip. Theo's marker at (−6, −3) reflects across the x-axis. Then that image reflects across the y-axis.

a. First image: _____

b. Final image: _____

c. Quadrant of the final image: _____

8. Design Symmetry. A designer puts a corner at A(5, 2) and wants matching corners in the other three quadrants.

a. Reflect A across the y-axis. _____

b. Reflect A across the x-axis. _____

c. Name the fourth corner. How did you find it? _____

FIND THE ERROR

explain the mistake, then fix it

9. Mateo's Work. To reflect (−7, 2) across the x-axis, Mateo flipped both signs and wrote (7, −2). Explain his mistake. Then write the correct image.

TEST PRACTICE

choose the best answer

10. Reflecting (5, 3) across the x-axis gives –

A (−5, 3) **B** (5, −3) **C** (−5, −3) **D** (3, 5)

11. Reflecting (−2, 8) across the y-axis gives –

A (2, 8) **B** (−2, −8) **C** (2, −8) **D** (8, −2)

SELF-CHECK CODE *find your answer · copy its letter into that problem's box · spell a math word*

x-axis **Z**	(4, 5) **Q**	(6, 3) **R**	(−4, −5) **T**	(−5, −6) **Y**	(−5, −2) **Y**	y-axis **E**	18 **M**	(6, −2) **S**	(7, 2) **M**

#1a	#2a	#3	#4	#5	#6	#7b	#8c

CHECK YOURSELF	☐ I can do this on my own	☐ I need a little help	☐ I have a question about #___