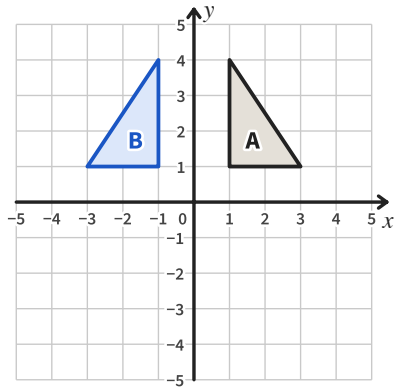
Reflecting shapes

ANSWERS

1

Reflect shape A in the y axis.
Label the image B.

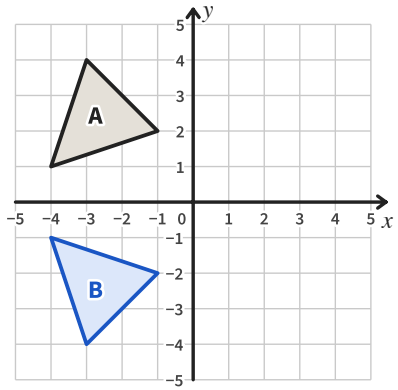


mirror line: the y axis

(3, 1) → (−3, 1)

2

Reflect shape A in the x axis.
Label the image B.

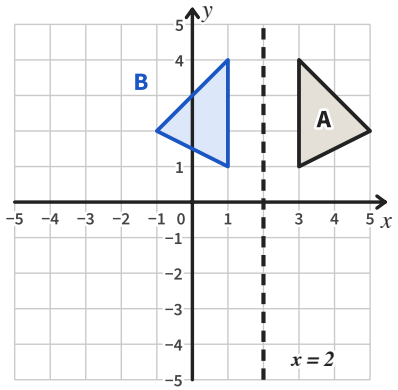


mirror line: the x axis

(−1, 2) → (−1, −2)

3

Reflect shape A in the line $x = 2$.
Label the image B.

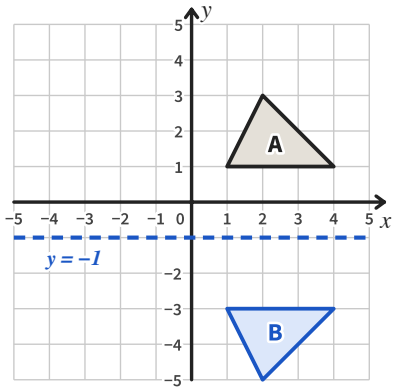


mirror line: x = 2, vertical

(3, 4) → (1, 4)

4

Draw the line $y = -1$. Reflect shape A in it.
Label the image B.

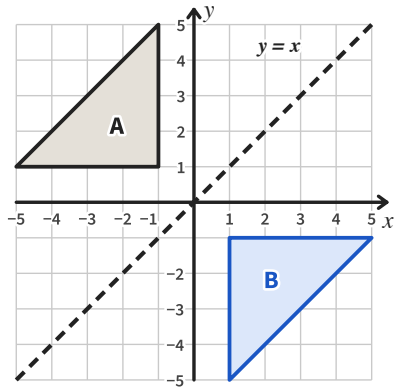


mirror line: y = −1, horizontal

(2, 3) → (2, −5)

5

Reflect shape A in the line $y = x$.
Label the image B.

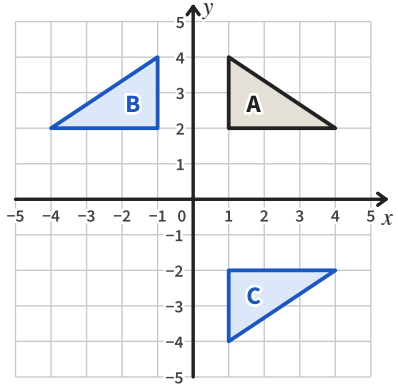


(−5, 1) → (1, −5)

check: swap the coordinates ✓

6

Reflect A in the y axis. Label it B.
Then reflect A in the x axis. Label it C.

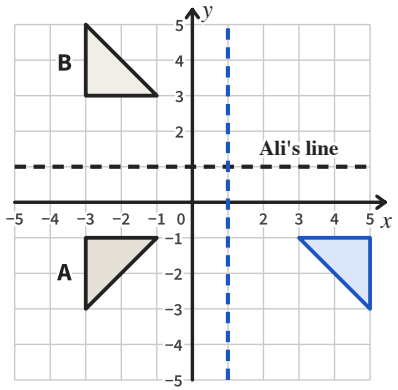


B: (4, 2) → (−4, 2)

C: (4, 2) → (4, −2)

7

Ali reflects A in the line $x = 1$ and gets B.
Explain his mistake.



mistake: he drew y = 1 across

$x = 1$ is: a vertical line

8

A triangle has corners (2, 1), (4, 1) and (4, 3). It is reflected in the line $x = 1$.
Write down the corners of the image.

(2, 1) → (0, 1)

(4, 1) → (−2, 1)

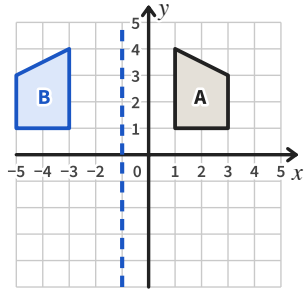
(4, 3) → (−2, 3)

Reflecting shapes *further practice*

ANSWERS

9

Reflect shape A in the line $x = -1$.
Label the image B.



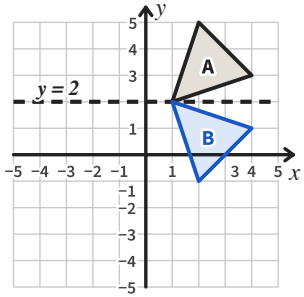
x = −1 is vertical

(3, 3) → (−5, 3)

Answer *B on the grid*

10

Reflect shape A in the line $y = 2$.
Label the image B.



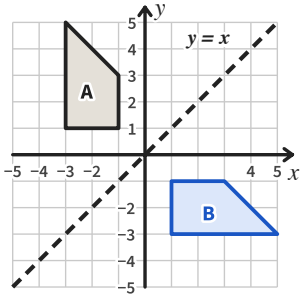
(1, 2) is on the line: it stays

(2, 5) → (2, −1)

Answer *B on the grid*

11

Reflect shape A in the line $y = x$.
Label the image B.



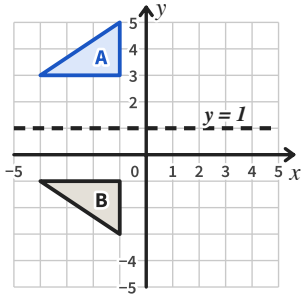
count diagonally, then the same again

check: swap, (−3, 5) → (5, −3)

Answer *B on the grid*

12

Shape B is the reflection of shape A in the line $y = 1$. Draw shape A.



B is 2 to 4 squares below the line

so A is the same distance above

Answer *A on the grid*

13

Zara folds a coordinate grid along the line $x = 2$. The point (5, 2) lands on another point. Which one?

(5, 2) is 3 squares right of the line

3 squares left: (−1, 2)

Answer *(−1, 2)*

14

On a garden plan, a path runs along the line $x = -1$. A flower bed has corners (1, 2), (3, 2) and (3, 4). A matching bed is its reflection in the path. Write down its corners.

(1, 2) is 2 right of the path: (−3, 2)

(3, 2), (3, 4) are 4 right: (−5, 2), (−5, 4)

Answer *(−3, 2), (−5, 2), (−5, 4)*

15

Ravi is making a tile pattern.
He reflects the point (3, −2) in the x axis, then reflects that point in the y axis. Where does it end up?

in the x axis: (3, 2)

in the y axis: (−3, 2)

Answer *(−3, 2)*

16

Leah says that when a shape is reflected in the y axis, each x coordinate changes sign and each y coordinate stays the same. Is she right? Explain, using the corner (3, 2).

(3, 2) is 3 squares right of the y axis

its image is 3 squares left, at (−3, 2)

Answer *Yes*