

GCSE Maths: Reflection (Foundation): worksheet

GCSE Maths - Transformations and Similarity - Foundation - Lesson 21.1

Name: _____

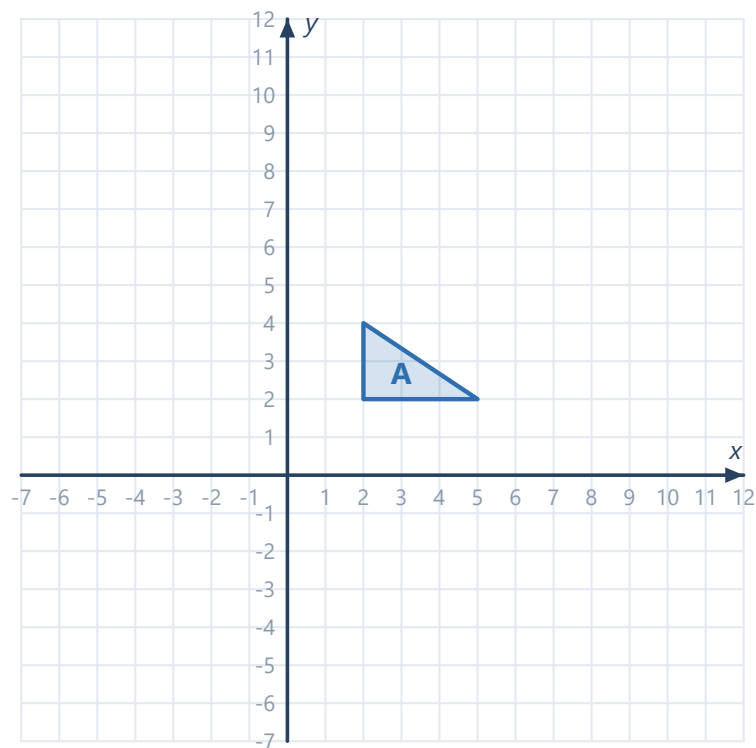
Date: _____

Score: _____

15 questions. Write your answers in the spaces. Answers and step-by-step help are free at websink.site/gcse/maths/ch21-transformations-congruence-similarity/foundation/reflection/

Exercise 21A Reflection Non-calculator

- 1 Shape A has vertices at (2, 2), (5, 2), (2, 4). Reflect A in each mirror line and write down the coordinates of the vertices of the image.



- (a) the y-axis (the line $x = 0$)

Answer: _____

- (b) the x-axis (the line $y = 0$)

Answer: _____

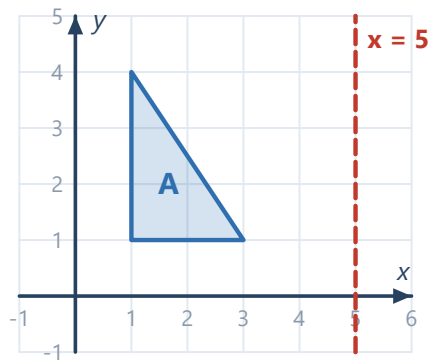
- (c) the line $x = 6$

Answer: _____

- (d) the line $y = 6$

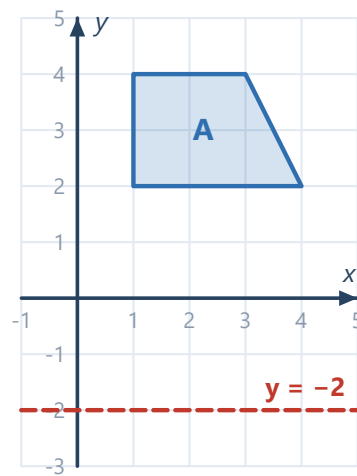
Answer: _____

- 2 Reflect shape A in the line $x = 5$. Write down the coordinates of the vertices of the image B. A has vertices at (1, 1), (3, 1), (1, 4).



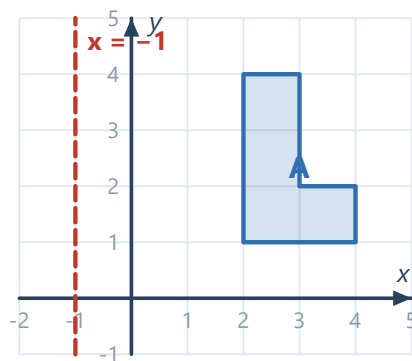
Answer:

- 3** Reflect shape A in the line $y = -2$. Write down the coordinates of the vertices of the image B. A has vertices at (1, 2), (4, 2), (3, 4), (1, 4).



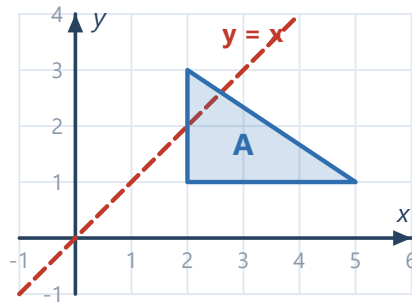
Answer:

- 4** Reflect shape A in the line $x = -1$. Write down the coordinates of the vertices of the image B. A has vertices at (2, 1), (4, 1), (4, 2), (3, 2), (3, 4), (2, 4).



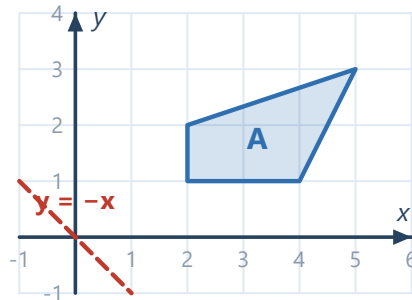
Answer:

- 5** Reflect shape A in the line $y = x$. Write down the coordinates of the vertices of the image B. A has vertices at (2, 1), (5, 1), (2, 3).



Answer:

- 6** Reflect shape A in the line $y = -x$. Write down the coordinates of the vertices of the image B. A has vertices at (2, 1), (4, 1), (5, 3), (2, 2).



Answer:

- 7** Write down the image of the point P(3, -2) when it is reflected in:

(a) the x-axis

Answer:

(b) the y-axis

Answer:

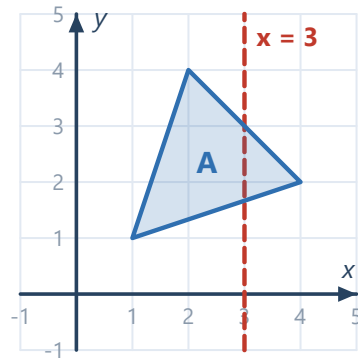
(c) the line $y = x$

Answer:

(d) the line $y = -x$

Answer:

- 8** Triangle A is drawn on the grid and is crossed by the mirror line $x = 3$. Reflect A in the line $x = 3$ and write down the coordinates of the image. A has vertices at (1, 1), (4, 2), (2, 4).

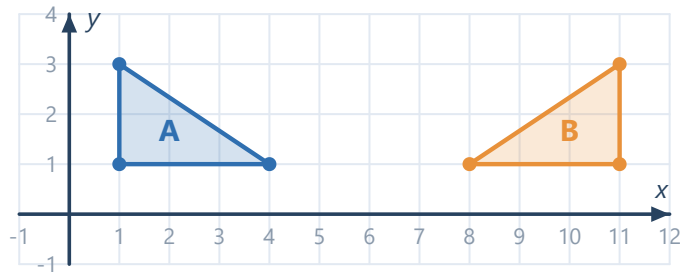


Answer:

- 9** Priya reflects triangle A, with vertices (2, 1), (5, 1), (2, 3), in the line $y = x$. She writes the image as $(-1, -2)$, $(-1, -5)$, $(-3, -2)$. Explain her mistake and write down the correct image.

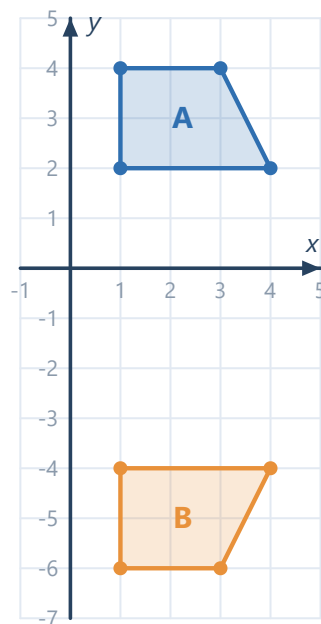
Answer:

- 10** Describe fully the single transformation that maps shape A onto shape B.



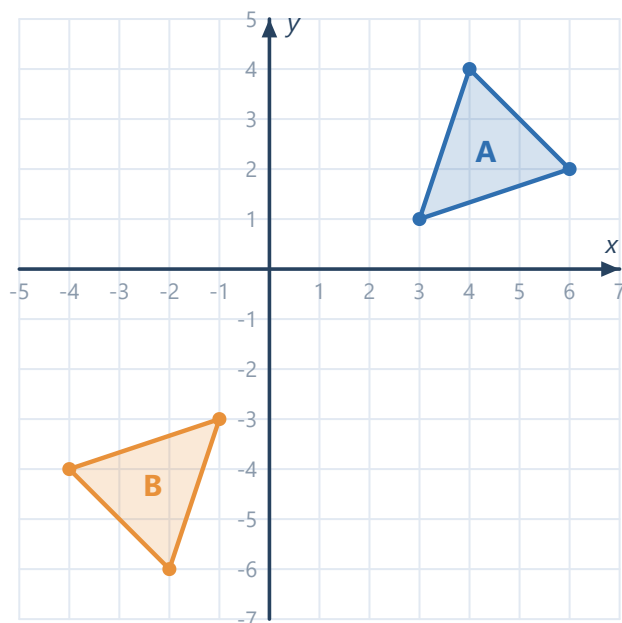
Answer:

- 11** Describe fully the single transformation that maps shape A onto shape B.



Answer:

- 12** Describe fully the single transformation that maps shape A onto shape B.



Answer:

- 13** The point $P(4, 5)$ is reflected in a vertical line. Its image is $P'(10, 5)$. Work out the equation of the mirror line.

Answer:

- 14** Shape A is reflected in the line $x = 3$ to give shape B. Shape B is then reflected in the line $x = 3$ to give shape C. Where is shape C? Explain.

Answer:

- 15** A shape has an area of 18 cm^2 . It is reflected in a line to give an image. What is the area of the image? Give a reason.

Answer: