

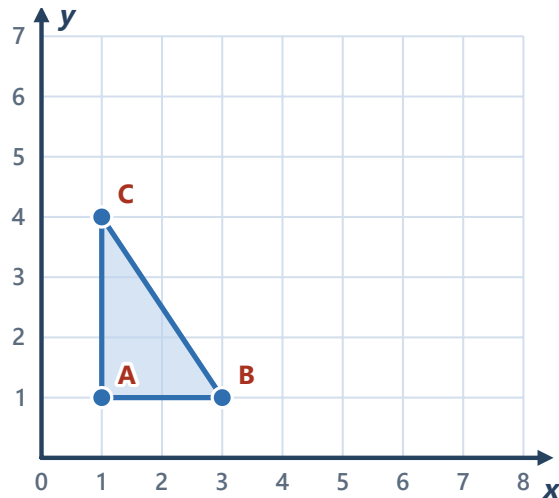
Year 4: Translating shapes: answers

Year 4 - Coordinates and Translation - Lesson 10.5

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at websink.site/ks2-sats/maths/year-4/ch10-position-direction/translating-shapes/

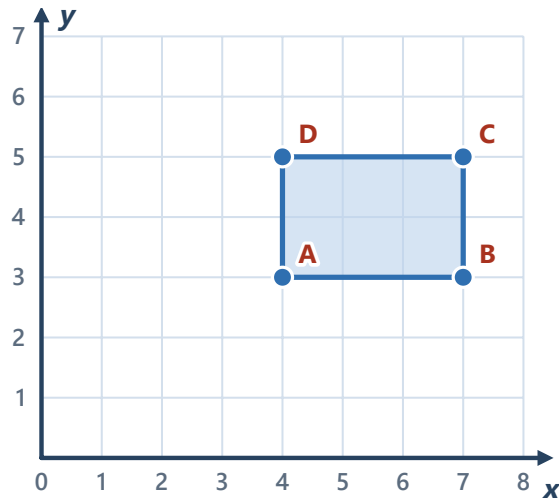
Exercise 10E Translating shapes Non-calculator

- 1 Triangle ABC has corners A (1, 1), B (3, 1) and C (1, 4). Translate it **4 right and 2 up**. Write the coordinates of the new corners.



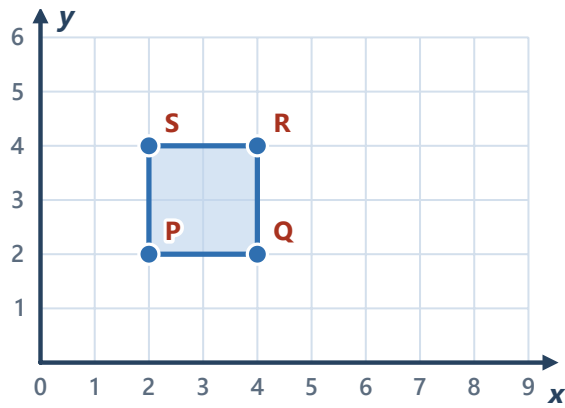
Answer: A' (5, 3); B' (7, 3); C' (5, 6)

- 2 Rectangle ABCD has corners A (4, 3), B (7, 3), C (7, 5) and D (4, 5). Translate it **3 left and 2 down**. Write the coordinates of the new corners.



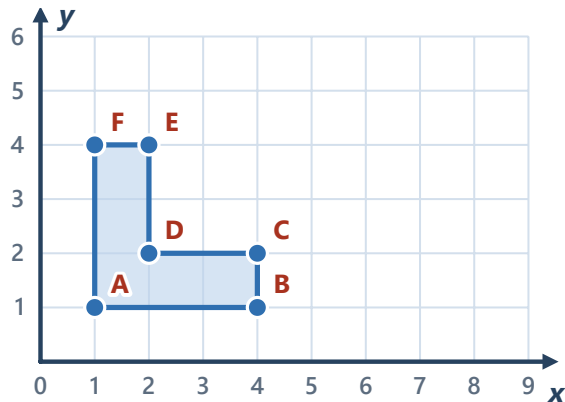
Answer: A' (1, 1); B' (4, 1); C' (4, 3); D' (1, 3)

- 3 Square PQRS has corners P (2, 2), Q (4, 2), R (4, 4) and S (2, 4). Translate it **5 right**. Write the coordinates of the new corners.



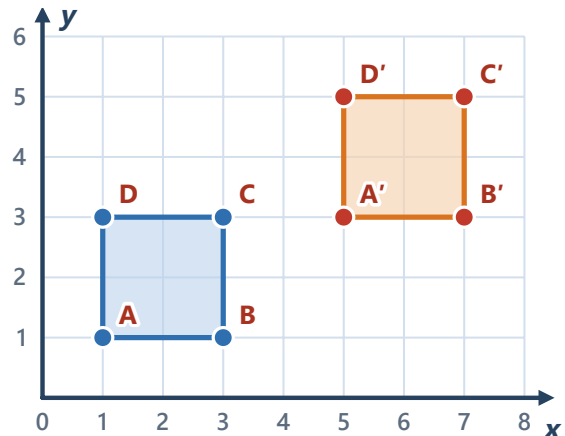
Answer: P' (7, 2); Q' (9, 2); R' (9, 4); S' (7, 4)

- 4 The L-shape ABCDEF has corners A (1, 1), B (4, 1), C (4, 2), D (2, 2), E (2, 4) and F (1, 4). Translate it **3 right and 1 up**. Write the coordinates of the new corners.



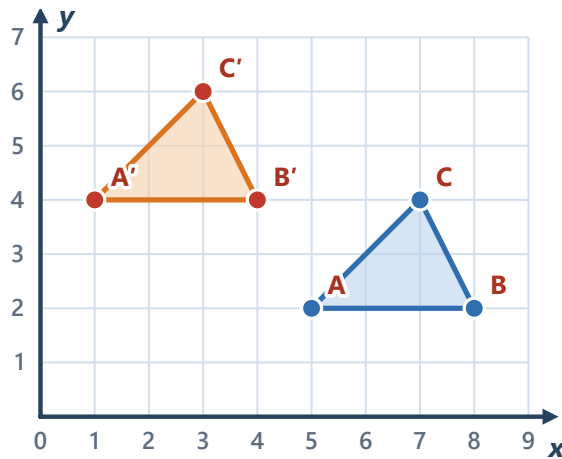
Answer: A' (4, 2); B' (7, 2); C' (7, 3); D' (5, 3); E' (5, 5); F' (4, 5)

- 5 Shape ABCD (blue) is translated to A'B'C'D' (orange). Describe the translation.



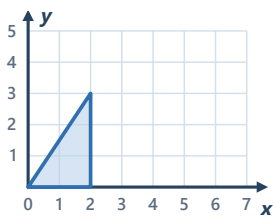
Answer: 4 right, 2 up

- 6 Triangle ABC (blue) is translated to triangle A'B'C' (orange). Describe the translation.

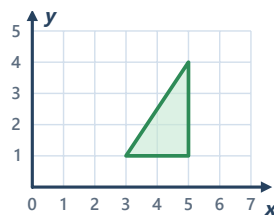


Answer: 4 left, 2 up

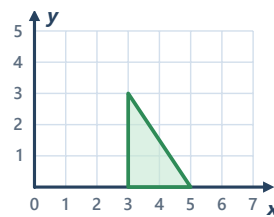
7 Which shape, B, C or D, is a translation of shape A? Write the letter.



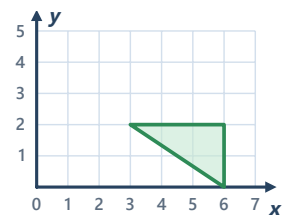
A



B



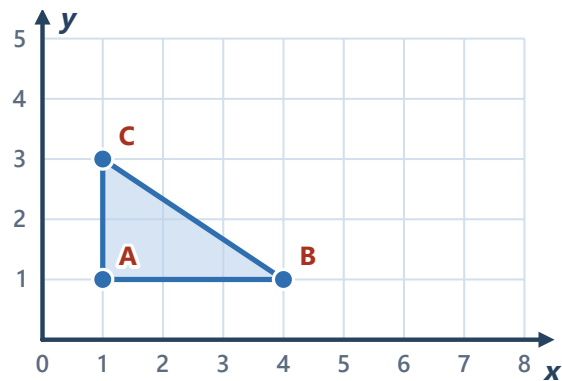
C



D

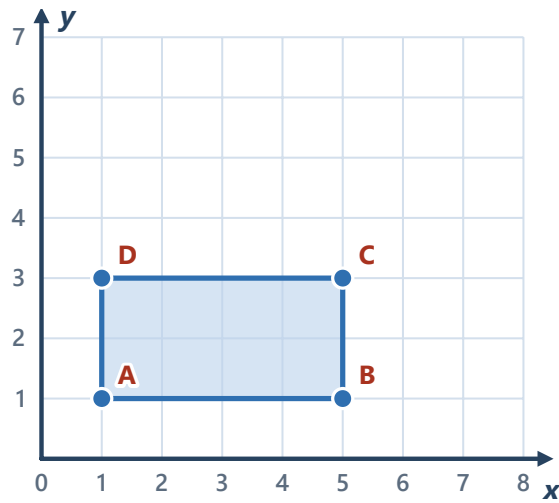
Answer: B

8 Triangle ABC has corners A (1, 1), B (4, 1) and C (1, 3). Ravi translates it 3 right. He writes A' (4, 1), B' (7, 1) and C' (1, 3). What has he done wrong? What should C' be?



Answer: He did not move C. C' is (4, 3)

9 Rectangle ABCD has corners A (1, 1), B (5, 1), C (5, 3) and D (1, 3). It is translated so that A moves to A' (3, 4).



- (a) Where does C move to?

Answer: (7, 6)

- (b) Where does D move to?

Answer: (3, 6)

10 Write **always**, **sometimes** or **never** for each sentence.

- (a) A translated shape is bigger than the first shape.

Answer: Never

- (b) A translated shape has the same side lengths as the first shape.

Answer: Always

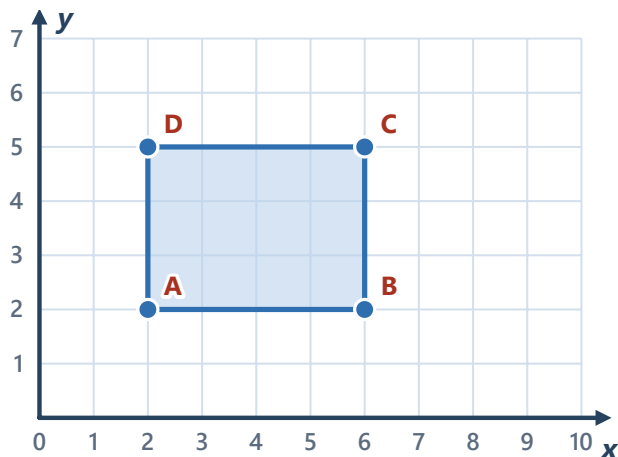
- (c) A translation turns the shape round.

Answer: Never

- (d) When a shape is translated, all its x-coordinates get bigger.

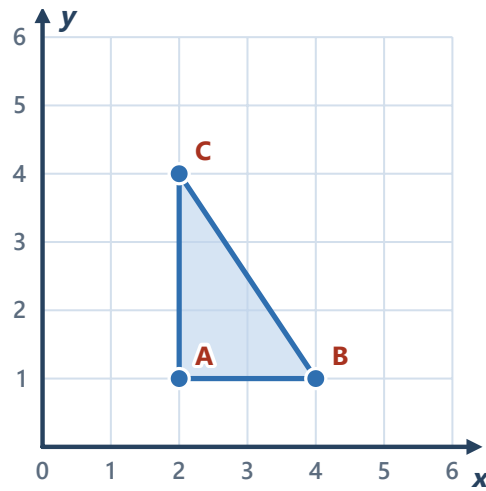
Answer: Sometimes

11 Rectangle ABCD has corners A (2, 2), B (6, 2), C (6, 5) and D (2, 5). Each grid square is 1 cm by 1 cm. The rectangle is translated 3 right and 1 up. What are the perimeter and the area of the new rectangle?



Answer: Perimeter 14 cm, area 12 cm²

12 Triangle ABC has corners A (2, 1), B (4, 1) and C (2, 4). The grid starts at 0.



- (a) Translate it 3 left. Can it be done on this grid? If so, write the new coordinates.

Answer: No. A corner would be off the grid

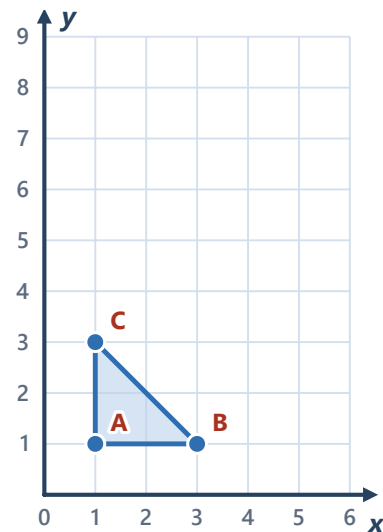
- (b) Translate it 2 left. Can it be done on this grid? If so, write the new coordinates.

Answer: Yes. A' (0, 1); B' (2, 1); C' (0, 4)

- (c) Translate it 2 down. Can it be done on this grid? If so, write the new coordinates.

Answer: No. A corner would be off the grid

- 13** Triangle ABC has corners A (1, 1), B (3, 1) and C (1, 3). It is translated 3 right and 1 up. Then the new triangle is translated 2 left and 4 up. Write the final coordinates of the three corners. What **one** translation would take ABC to the same place?



Answer: (2, 6), (4, 6), (2, 8); 1 right, 5 up