

Year 4: Translating points: answers

Year 4 - Coordinates and Translation - Lesson 10.4

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-points/

Exercise 10D Translating points Non-calculator

1 Translate each point. Write the coordinates of the new point.

(a) (2, 1): 3 right, 2 up

Answer: (5, 3)

(b) (5, 4): 2 left, 1 up

Answer: (3, 5)

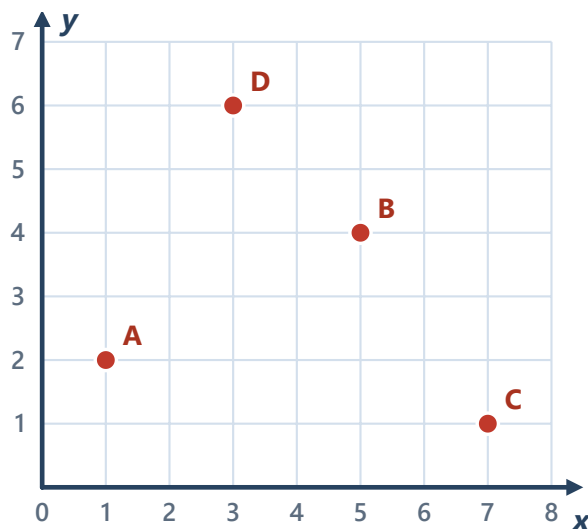
(c) (6, 6): 4 left, 3 down

Answer: (2, 3)

(d) (1, 2): 5 right, 0 up

Answer: (6, 2)

2 Describe each translation. Write left or right first, then up or down.



(a) From A to B

Answer: 4 right, 2 up

(b) From B to C

Answer: 2 right, 3 down

(c) From C to D

Answer: 4 left, 5 up

(d) From D to A

Answer: 2 left, 4 down

3 Copy and complete the table. S is the start point and E is the end point.

- (a) S = (3, 2); move 2 right, 4 up; E = ?

Answer: (5, 6)

- (b) S = (5, 5); move 3 left, 2 down; E = ?

Answer: (2, 3)

- (c) S = (4, 1); move = ?; E = (7, 5)

Answer: 3 right, 4 up

- (d) S = ?; move 3 right, 2 up; E = (7, 4)

Answer: (4, 2)

4 A frog sits at F (2, 2). It jumps 3 squares to the right. Then it jumps 4 squares up.

- (a) Where is the frog after the first jump?

Answer: (5, 2)

- (b) Where is the frog after the second jump?

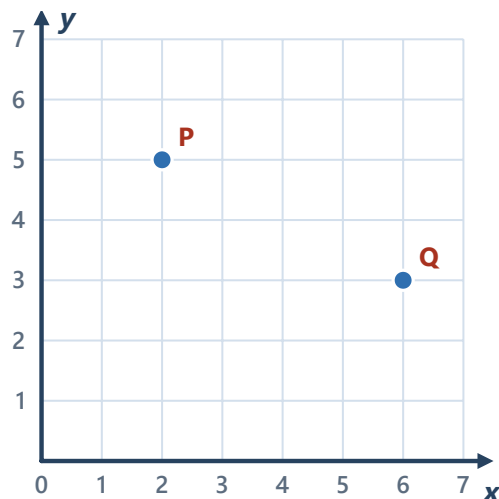
Answer: (5, 6)

5 Leo translates the point (2, 3) by 3 right and 2 up. He says the new point is (4, 6). What mistake has Leo made? What is the right answer?

Answer: He swapped the moves. The new point is (5, 5)

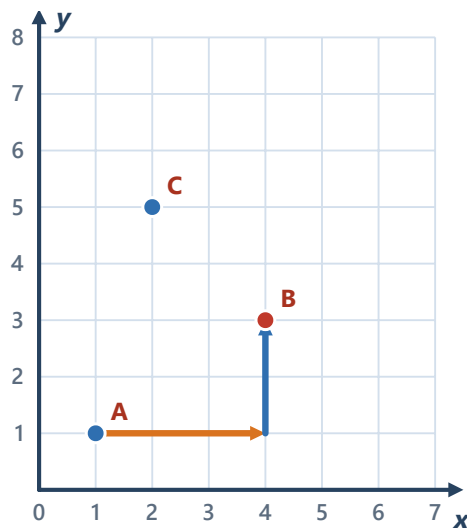
6 Which translation takes P (2, 5) to Q (6, 3)? Write the letter.

A: 4 right, 2 down B: 2 right, 4 down C: 4 left, 2 up



Answer: A

7 Point A (1, 1) is translated to point B (4, 3). C is the point (2, 5). C is translated by the **same** move. What are the coordinates of the new point?

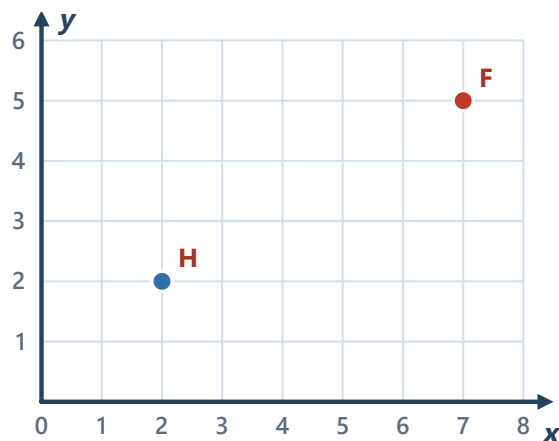


Answer: (5, 7)

- 8 P is at (1, 2). It is translated 4 right and 1 up. Then it is translated 2 right and 3 up. Where does it finish? Write the one move that goes from the start to the end.

Answer: (7, 6); 6 right, 4 up

- 9 A bee flies from the hive H (2, 2) to a flower F (7, 5).



- (a) Describe the move from H to F.

Answer: 5 right, 3 up

- (b) Describe the move from F back to H.

Answer: 5 left, 3 down

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

- (a) When a point is translated up, its x-coordinate stays the same.

Answer: Always

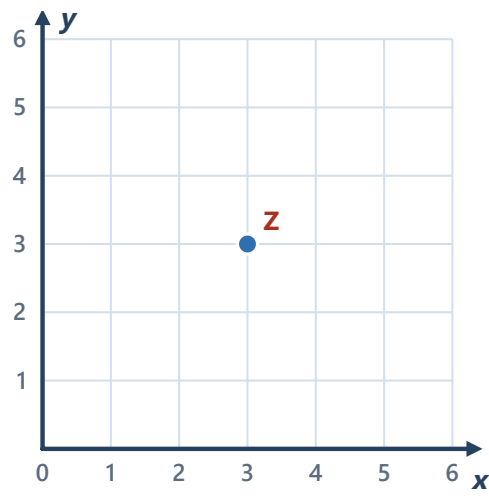
- (b) When a point is translated right, its y-coordinate changes.

Answer: Never

- (c) After a translation, both coordinates of a point are bigger than before.

Answer: Sometimes

- 11 Z is the point (3, 3) on a grid that starts at 0. Zainab says, "If I translate Z 4 squares left, the point is not on the grid." Is she right? Explain.



Answer: Yes. x would be $3 - 4$, which is below 0

12 A point moves 4 right and 3 up. It ends at (9, 7). Then it moves 5 left and 2 down.

(a) Where did the point start?

Answer: (5, 4)

(b) Where does the point finish?

Answer: (4, 5)