Test answers - Reflection and translation

Year: Year 5 · Duration: 40 minutes · /20

Answer to Question 1 (4 marks)

(a) The first coordinate is across and the second is up: **(4, 6)**. (1 mark)

(b) Add 5 to the x-coordinate and 3 to the y-coordinate: (3 + 5, 2 + 3) = **(8, 5)**. (1 mark)

(c) Subtract 4 across and 5 up: (8 − 4, 7 − 5) = **(4, 2)**. (1 mark)

(d) x changes from 2 to 6 (+4) and y from 5 to 1 (−4): **4 squares right and 4 squares down**. (1 mark)

Answer to Question 2 (4 marks)

(a) 3 squares left of the line, so **(7, 2)**. (1 mark)

(b) 1 square left of the line, so **(5, 5)**. (1 mark)

(c) On the mirror line, so it stays at **(4, 1)**. (1 mark)

(d) 4 above the line, so 4 below: **(5, −2)**. (1 mark)

Answer to Question 3 (4 marks)

(a) Add 3 to each x and 2 to each y: A(1, 1) → (4, 3), B(4, 1) → (7, 3), C(1, 3) → (4, 5). Answer: **(4, 3), (7, 3), (4, 5)**. (2 marks)

(b) Each point keeps its distance from the mirror line x = 8 but moves to the other side. (4, 3) is 4 left of the line, so it goes to 12; (7, 3) goes to 9. Answer: **(12, 3), (9, 3), (12, 5)**. (2 marks)

Answer to Question 4 (3 marks)

(a) **False**. A translation only slides the shape, so the size stays the same. (1 mark)

(b) **True**. It is already at distance 0 from the line. (1 mark)

(c) **False**. The first number is across, so (2, 7) is 2 across and 7 up, but (7, 2) is 7 across and 2 up. (1 mark)

Answer to Question 5 (5 marks)

(a) 6 − 2 = 4 and 4 − 1 = 3, so **4 squares right and 3 squares up**. (2 marks)

(b) The slide is 3 left of x = 5, so the image is 3 right: **(8, 1)**. (1 mark)

(c) (6 − 3, 4 − 2) = **(3, 2)**. (1 mark)

(d) The swings (3, 2) are 1 across and 1 up from the original slide (2, 1) but 5 across

and 1 down from (8, 1), so they are **nearer to the original slide**. (1 mark)