Test answers - Four-quadrant coordinates and transformations

Year: Year 6 · Duration: 40 minutes · /20

Answer to Question 1 (3 marks)

a. A(2, 3), B(−4, 1), C(−3, −2). (1 mark)
b. C has negative x and negative y, so it is in **quadrant 3**. (1 mark)
c. The fourth corner has the same y as (2, 3) and the same x as (−3, −2): **(−3, 3)**. (1 mark)

Answer to Question 2 (4 marks)

a. x: 4 − 3 = 1. y: −2 + 5 = 3. The image is **(1, 3)**. (1 mark)
b. x increases by 3 and y decreases by 2: **3 right and 2 down**. (1 mark)
c. A′(4, −2), B′(6, −2), C′(6, 1). (2 marks)

Answer to Question 3 (4 marks)

a. **(5, 3)**. (1 mark)
b. **(6, 2)**. (1 mark)
c. **(−1, 1), (−4, 1), (−1, 3)**. (1 mark)
d. The area does **not** change. A reflection keeps the size and shape of the triangle (area = ½ × 3 × 3 = 4.5). (1 mark)

Answer to Question 4 (4 marks)

a. 5 + 3 = **8 units**. (1 mark)
b. 6 + 1 = **7 units**. (1 mark)
c. Width = 2 + 4 = 6 and height = 1 + 3 = 4. Perimeter = 2 × (6 + 4) = **20 units**. (1 mark)
d. Area = 6 × 4 = **24 square units**. (1 mark)

Answer to Question 5 (5 marks)

a. PQRS is a **square** with sides of 3 units, which is 9 m. Perimeter = 4 × 9 = **36 m**. (1 mark)
b. Area = 9 × 9 = **81 m²**. (1 mark)
c. **(4, 1), (1, 1), (1, −2), (4, −2)**. (2 marks)

d. Yes, a reflection does not change the size. The nearest edges are at x = −1 and x = 1, which is 2 units apart, so 2 × 3 = **6 m**. (1 mark)