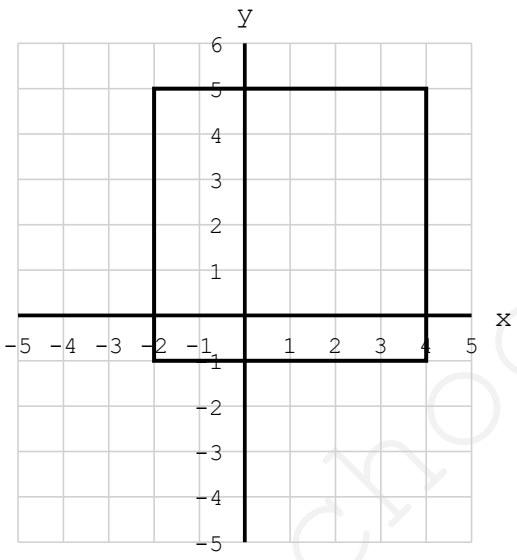
Coordinates & Graphs: Medium Practice Paper 8

Q1. What are the coordinates of the centre of this square?



A. (0, 2) *B.* (1, 2) *C.* (1, 3) *D.* (2, 1) *E.* (2, 2)

Q2. Every point of a shape is moved by the rule (x, y) → (x, −y). Which transformation does this rule describe?

A. A reflection in the y-axis

B. A reflection in the line y = x

C. A half turn about the origin

D. A translation downwards

E. A reflection in the x-axis

Q3. A triangle has corners at (1, 1), (3, 1) and (1, 4). Every coordinate is then multiplied by 2. What is the area of the new triangle, in squares?

A. 3 *B.* 6 *C.* 9 *D.* 12 *E.* 24

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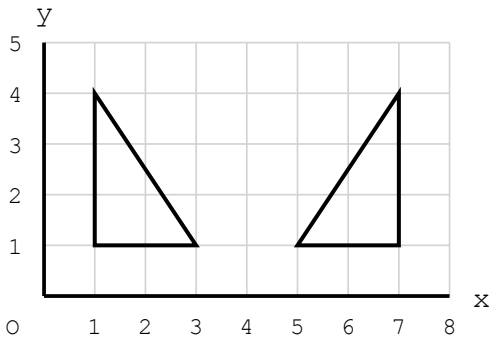
Q4. The two triangles on the grid are reflections of one another. What is the equation of the mirror line?



A. x = 3 *B.* x = 4 *C.* x = 5 *D.* y = 4 *E.* y = x

Q5. A rectangle has corners at (−3, −2), (5, −2), (5, 4) and (−3, 4). What is its perimeter, in units?

A. 14 *B.* 20 *C.* 24 *D.* 28 *E.* 48

Q6. What are the coordinates of the midpoint of the line joining (−4, −1) and (6, 3)?

A. (0, 1) *B.* (1, 1) *C.* (1, 2) *D.* (2, 1) *E.* (5, 2)

Q7. Which of these points is furthest from the origin?

A. (0, 6) *B.* (2, 5) *C.* (3, 4) *D.* (4, 3) *E.* (5, 0)

Q8. A shape is translated 4 squares right and 1 square down, and then translated 2 squares left and 5 squares up. Which single translation would have the same effect?

A. 2 right and 4 up

B. 2 left and 4 up

C. 6 right and 6 up

D. 2 right and 6 up

E. 6 left and 4 down

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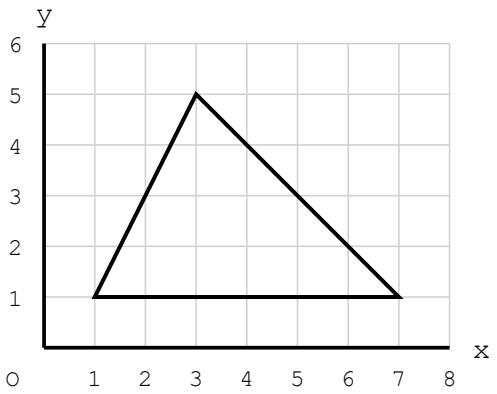
Q9. What is the area of this triangle, in squares?



A. 10 *B.* 12 *C.* 15 *D.* 18 *E.* 24

Q10. The points (0, 1), (4, 1), (6, 4) and (2, 4) are joined in order. Which shape is made?

A. A parallelogram

B. A rectangle

C. A square

D. A trapezium

E. A kite

Q11. The point (4, 3) is reflected in the x-axis, and its image is then reflected in the y-axis. What are the final coordinates?

A. (−4, −3) *B.* (−4, 3) *C.* (3, 4) *D.* (4, −3) *E.* (4, 3)

Q12. A rectangle has its centre at (3, 3) and one corner at (1, 1). Where is the corner opposite that one?

A. (3, 5) *B.* (4, 4) *C.* (5, 3) *D.* (5, 5) *E.* (6, 6)

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Q13. A square has two opposite corners at (1, 1) and (5, 5), and its sides run along the grid lines. What is its area, in squares?

A. 8 *B.* 12 *C.* 16 *D.* 20 *E.* 25

Q14. The point (−2, 5) is reflected in the y-axis, and the image is then moved 3 squares down. Where does it end up?

A. (−2, 2) *B.* (2, 2) *C.* (2, 5) *D.* (2, 8) *E.* (−5, 5)

Q15. How many squares apart are the points (−6, 3) and (2, 3)?

A. 4 *B.* 6 *C.* 8 *D.* 9 *E.* 11

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