Coordinates & Graphs: Medium Practice Paper 6 Answers

Q#	Answer	Explanation
1	C	Point A is at (2, 3). Doubling both coordinates means doubling the 2 and doubling the 3, giving 2 × 2 = 4 across and 3 × 2 = 6 up. The new point is (4, 6).
2	D	The rule says add 4 to the x-coordinate and take 2 away from the y-coordinate. So 1 + 4 = 5 across, and 5 − 2 = 3 up, giving (5, 3).
3	D	The rectangle runs from 2 up to 6, so a horizontal fold half way between them is at 4. Every horizontal line has an equation of the form y = something, so the line is y = 4. The line x = 4 is also a line of symmetry, but that one is vertical.
4	D	For A, B, C and E the y-coordinate is always 1 more than the x-coordinate, so they lie on the line y = x + 1. Point D is at (4, 6), but the rule would put it at (4, 5), so D is the one that does not fit.
5	C	Both points are 5 up, so the middle one is too, and only the across value changes. Halfway between 2 and 10 is found by adding them and halving: 2 + 10 = 12, and then 12 ÷ 2 = 6.
6	B	The bottom side runs from 1 to 5 across, so it is 4 squares long, and the side runs from 1 to 3 up, so it is 2 squares. All four corners are right angles, so it is a rectangle, and since 4 is more than 2 it is wider than it is tall.
7	C	Find 30 along the pounds axis, go straight up to the line and then across to the euros axis. The line is reached level with 45, so £30 is worth €45.
8	B	This time start at 30 on the euros axis, go across to the line and then straight down. The line is met above 20, so €30 costs about £20. Reading the graph the other way round is the whole trick here.
9	C	The line is flat, and every point on it is 2 below the x-axis whatever the across value is. A flat line has an equation of the form y = something, so this one is y = −2.

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10	A	The y values go up by 3 each time x goes up by 1, so the rule starts with 3x. When x is 1, 3x is 3 but y is 4, which is 1 more, so the rule is y = 3x + 1. Checking with x = 4 gives 12 + 1 = 13, which matches.
11	C	The base runs from 1 to 5 along the bottom, so it is 4 squares long, and the shape stands 3 squares high, from 1 up to 4. The area of a parallelogram is the base times the perpendicular height, so it is 4 × 3 = 12 squares.
12	A	The across value changes from 2 to −3, which is a move of 5 squares to the left. The up value changes from 1 to 4, which is 3 squares up. So the shape moves 5 left and 3 up.
13	A	At every one of these points the up value is the same as the across value. That is exactly what the equation y = x says, so the line is y = x.
14	B	The side from (1, 1) to (6, 1) is 5 squares long, and the side from (6, 1) to (6, 4) is 3 squares. The fourth corner is not needed, because the area is 5 × 3 = 15 squares.
15	E	The sides are straight and upright, so every second the water rises by the same amount. A depth that grows by equal amounts in equal times is drawn as a straight line sloping upwards.

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