

Coordinates & Graphs: Medium Practice Paper 7 Answers

Q#	Answer	Explanation
1	C	Find 4 on the miles axis, go straight up until you meet the line, then go across to the cost axis. The line is met level with 30, so a 4-mile journey costs £30.
2	C	Before any miles are travelled the journey is 0 miles, so look at where the line starts, on the cost axis. It starts at 10, so there is a fixed charge of £10 before the miles are counted.
3	C	Start at 40 on the cost axis, go across to the line and then straight down to the miles axis. That lands on 6, so £40 pays for a journey of 6 miles.
4	E	The steepness of a line is the number in front of the x , because it says how far the line climbs for each step across. Those numbers are 1, 2, 3, 4 and 5, so $y = 5x - 1$ climbs fastest and is the steepest.
5	A	In $y = 5 - x$ the x is taken away, so as x grows the value of y gets smaller and the line falls. In the others y grows as x grows, except $y = 4$, which is flat and neither rises nor falls.
6	D	Every point on the x -axis has y equal to 0, so the line crosses it where $2x - 8$ is 0. That needs $2x$ to be 8, so x is 4 and the crossing point is (4, 0).
7	B	Find the one point that lies on both lines. Reading off the grid, the lines meet 3 squares across and 5 squares up, so they cross at (3, 5). Checking with $y = x + 2$ gives $3 + 2 = 5$, which is right.
8	C	The point is 3 across, so put 3 in place of x in the equation. That gives $4 \times 3 = 12$, and then $12 - 5 = 7$, so k is 7.
9	A	The y values climb by 3 each time, so the rule contains $3x$. When x is 0 the value of y is 5, and that is the number added on, so the rule is $y = 3x + 5$. Checking with $x = 3$ gives $9 + 5 = 14$, which matches.

10	D	Put each across value into the rule and see whether the up value matches. For (3, 10) the rule gives $2 \times 3 = 6$, and then $6 + 3 = 9$, not 10, so this point is not on the line. All the others do fit.
11	A	Parallel lines never meet, which means they must be exactly as steep as each other. The steepness is the number in front of the x, so the line must also have 3 there. Only $y = 3x + 2$ does.
12	C	Growth in a week is how much the line climbs across that week, so look for the steepest part. From week 2 to week 3 the height goes from 5 up to 11, a rise of $11 - 5 = 6$ centimetres, which is more than in any other week.
13	C	Read the height at each of the two weeks and take one from the other. At week 5 it is 16 cm and at week 1 it is 2 cm, so it grew $16 - 2 = 14$ centimetres in between.
14	A	A straight line means each extra ticket adds the same amount to the cost, and passing through the origin means no tickets cost nothing, so there is no booking fee on top. Together they say every ticket costs the same.
15	D	Because the graph is a straight line through the origin, the cost of one book is always the same: $20 \div 4 = 5$ pounds. So 7 books cost $7 \times 5 = 35$ pounds.