

Coordinates & Graphs: Medium Practice Paper 3 Answers

Q#	Answer	Explanation
1	D	The rule doubles every x value, so when $x = 4$, $y = 2 \times 4 = 8$. Reading up from 4 on the grid to the line and across gives the same answer.
2	C	Start at 6 on the y -axis, go across to the line, then straight down to the x -axis, which reads 3. It checks out, because $2 \times 3 = 6$.
3	E	Put each x into the rule and see which y comes out. When $x = 4$ the rule gives $3 \times 4 - 1 = 11$, so $(4, 11)$ fits. When $x = 2$ it gives 5, not 6, and when $x = 3$ it gives 8, not 7.
4	B	When $x = 3$ the rule gives $y = 2 \times 3 + 1 = 7$. The y values also go up in steps of 2, which agrees.
5	D	A line crosses the y -axis where $x = 0$. Putting $x = 0$ into the rule gives $y = -3$, so the crossing point is $(0, -3)$.
6	B	On the line $y = 4$ every point is 4 squares up, whatever its x -coordinate, so the line runs flat across the grid. The line $x = 4$ is the upright one.
7	B	The lines meet where both rules give the same y . At $x = 2$ the first gives $2 + 1 = 3$ and the second gives $5 - 2 = 3$, so they cross at $(2, 3)$.
8	E	The line goes through the origin, so the rule is $y = \text{something} \times x$. Since $x = 2$ gives $y = 6$, each x is multiplied by $6 \div 2 = 3$, so the equation is $y = 3x$.
9	C	Substitute $x = 4$ into the rule: $2 \times 4 - 1 = 7$, so $k = 7$.
10	D	For every point on this line the two coordinates add up to 10. The pairs $2 + 8$, $4 + 6$, $6 + 4$ and $9 + 1$ all make 10, but $7 + 2 = 9$, so $(7, 2)$ is the odd one out.
11	A	Steepness is how much the line climbs for each square across. The line $y = x$ climbs 1 square for each square across, while $y = 2x$ climbs 2, so $y = 2x$ is steeper. Both pass through the origin.

12	B	Each time x goes up by 1, y goes up by 2, so the rule starts $y = 2x$. When $x = 1$ that gives 2, but the point says 5, so 3 must be added: $y = 2x + 3$.
13	E	A point sits above the line $y = x$ when its y -coordinate is bigger than its x -coordinate. Only $(2, 5)$ does that, since 5 is more than 2.
14	A	Parallel lines climb at the same rate, which is the number in front of the x . Only $y = 4x - 3$ also goes up 4 for every 1 across, so it never meets $y = 4x + 1$.
15	D	A line crosses the x -axis where $y = 0$. That needs $12 - 2x$ to be 0, so $2x = 12$ and $x = 6$. The crossing point is $(6, 0)$.