3 Coordinate geometry

3.1 Coordinates	Notes and examples
Use and interpret Cartesian coordinates in two dimensions.	

3.2 Drawing linear graphs	Notes and examples
Draw straight-line graphs for linear equations.	Examples include: • $y = -2x + 5$ • $y = 7 - 4x$ • $3x + 2y = 5$.

3.3 Gradient of linear graphs	Notes and examples
1 Find the gradient of a straight line. 2 Calculate the gradient of a straight line from the coordinates of two points on it.	

3.4 Length and midpoint	Notes and examples
1 Calculate the length of a line segment. 2 Find the coordinates of the midpoint of a line segment.	

3.5 Equations of linear graphs	Notes and examples
Interpret and obtain the equation of a straight-line graph.	Questions may: • use and request lines in different forms, e.g. $ax + by = c$ $y = mx + c$ $x = k$ • involve finding the equation when the graph is given • ask for the gradient or y-intercept of a graph from an equation, e.g. find the gradient and y-intercept of the graph with equation $5x + 4y = 8$. Candidates are expected to give equations of a line in a fully simplified form.

3 Coordinate geometry (continued)

3.6 Parallel lines	Notes and examples
Find the gradient and equation of a straight line parallel to a given line.	e.g. Find the equation of the line parallel to $y = 4x - 1$ that passes through $(1, -3)$.

3.7 Perpendicular lines	Notes and examples
Find the gradient and equation of a straight line perpendicular to a given line.	Examples include: • Find the gradient of a line perpendicular to $2y = 3x + 1$. • Find the equation of the perpendicular bisector of the line joining the points $(-3, 8)$ and $(9, -2)$.