Topic 08 – Equations of Straight Lines (From OCR 4751)

Note: A link to the associated YouTube tutorial can be found at ALevelMathsRevision.com/bridging-the-gap/

Q1, (Jun 2005, Q4)
A line has equation \(3x + 5y = 12\). Find its gradient and the coordinates of the points where it crosses the axes. \([4]\)

Q2, (Jun 2006, Q3)
Find the coordinates of the point of intersection of the lines \(y = 3x + 1\) and \(x + 3y = 6\). \([3]\)

Q3, (Jan 2007, Q1)
Find, in the form \(y = ax + b\), the equation of the line through \((3, 10)\) which is parallel to \(y = 2x + 7\). \([3]\)

Q4, (Jan 2008, Q5)
(i) Find the gradient of the line \(4x + 5y = 24\). \([2]\)
(ii) A line parallel to \(4x + 5y = 24\) passes through the point \((0, 12)\). Find the coordinates of its point of intersection with the \(x\)-axis. \([3]\)

Q5, (Jun 2008, Q2)
(i) Find the points of intersection of the line \(2x + 3y = 12\) with the axes. \([2]\)
(ii) Find also the gradient of this line. \([2]\)

Q6, (Jun 2008, Q12i)
Find the equation of the line passing through \(A\) \((-1, 1)\) and \(B\) \((3, 9)\). \([3]\)

Q7, (Jan 2009, Q2)
Find the equation of the line passing through \((-1, -9)\) and \((3, 11)\). Give your answer in the form \(y = mx + c\). \([3]\)

Q8, (Jun 2009, Q1)
A line has gradient \(-4\) and passes through the point \((2, 6)\). Find the coordinates of its points of intersection with the axes. \([4]\)

Q9, (Jan 2010, Q3)
(i) Find the coordinates of the point where the line \(5x + 2y = 20\) intersects the \(x\)-axis. \([1]\)
(ii) Find the coordinates of the point of intersection of the lines \(5x + 2y = 20\) and \(y = 5 - x\). \([3]\)

Q10, (Jun 2010, Q1)
Find the equation of the line which is parallel to \(y = 3x + 1\) and which passes through the point with coordinates \((4, 5)\). \([3]\)