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]