



Air maths tuition

Interact, engage and perform

Intersection of a line | Past Paper Question | Edexcel C1 June 2014 Q9(a)

The diagram shows a Cartesian coordinate system with x and y axes. A line l_1 is plotted, intersecting the y-axis at point B. A line l_2 is plotted, passing through the origin O. A right-angle symbol is drawn at the intersection point C of l_1 and l_2 , indicating they are perpendicular.

$y - y_1 = m(x - x_1)$
 $\therefore y = mx$
Since $x_1 = 0, y_1 = 0$

The line l_1 , shown has equation $2x + 3y = 26$

The line l_2 passes through the origin O and is perpendicular to l_1

Find an equation for the line l_2 (4)

$l_1: 2x + 3y = 26$
 $\therefore 3y = -2x + 26$
 $\therefore y = -\frac{2}{3}x + \frac{26}{3}$

\therefore gradient of $l_1 = -\frac{2}{3}$
 \therefore gradient of $l_2 = \frac{3}{2}$
 \therefore Equation of l_2 is
 $y = \frac{3}{2}x$

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