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A LEVEL MATHS

(26) More Straight Line Graphs

WORKING AT D/E

(1) The lines with equation $y = 2x + 1$ and $4x - y - 8 = 0$ meet at the point (a, b). Find the values of a and b.

(2) The equation of a straight line is given as $5x + 10y = 20$. Write the equation of the line in the form $y = mx + c$

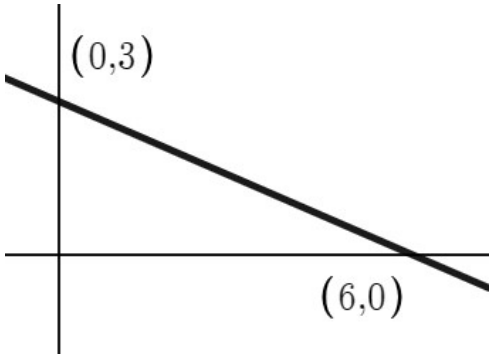
(3) L_1 has equation $6x - 8y + 8 = 0$. Find where the line cuts the coordinate axes.

WORKING AT B/C

(1) L_1 has equation $y = px - 8$ and L_2 has equation $y = 5x - 12$. L_1 and L_2 intersect at the point $(-4, q)$.

Find the values of the constants p and q.

(2) Find the equation of line shown below in the form $ax + by + c = 0$



(3) $f(x) = 2x + 1$

Find where the graph of $y = f(x - 3)$ crosses the x axis.

WORKING AT A*/A

(1) The line with equation $ax + by = c$ crosses the coordinate axes at A and B. Show that the area of the triangle AOB where O is the origin can be written as $\frac{c^2}{2ab}$

(2) The line with equation $px + qy = r$ and the line with equation $y = mx + c$ intersect on the y axis. Show that $r = cq$

(3) A line with gradient $\frac{-2}{3}$ passes through the points $(p, 0)$ and $(0, q)$ where p and q integers. Find the least possible positives values of p and q.