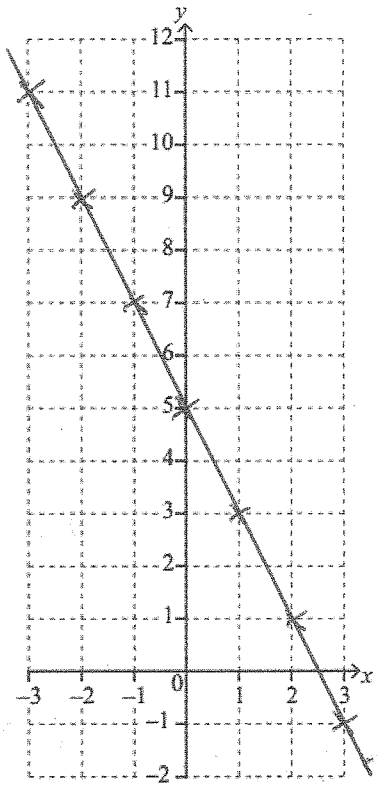
M4 =5 days to go!

10 Draw the graph of $y = 5 - 2x$ on the grid below.

x	-3	-2	-1	0	1	2	3
y	11	9	7	5	3	1	-1



[3]

22 Solve the equation $$\frac{3(x-2)}{4} - 3 = \frac{x+4}{3}$$

Show all your working clearly.

A solution by trial and improvement will not be accepted.

This has fractions. Get a common denominator

$$\frac{9(x-2)}{12} - \frac{36}{12} = \frac{4(x+4)}{12}$$

Think

$$\frac{9}{12} - \frac{1}{12} = \frac{8}{12}$$

$$9 - 1 = 8$$

$$9(x-2) - 36 = 4(x+4)$$

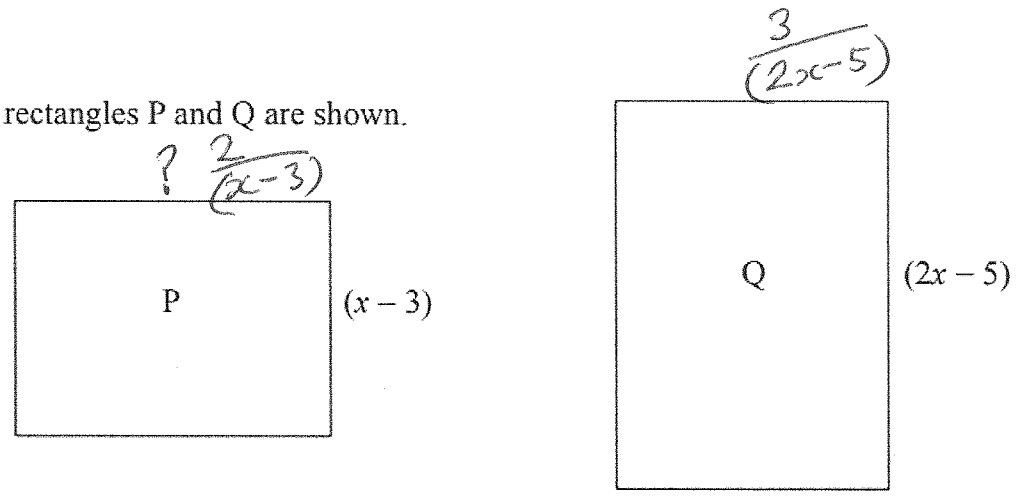
$$9x - 18 - 36 = 4x + 16$$

$$9x - 4x = 16 + 18 + 36$$

$$5x = 70$$

$$x = 14$$

18 Two rectangles P and Q are shown.



The **width** of rectangle P is $(x-3)$ cm and the **width** of Q is $(2x-5)$ cm.
The area of rectangle P is 2 cm^2 and the area of rectangle Q is 3 cm^2.
The sum of the lengths of the two rectangles is 3 cm.
By forming and solving an equation find the lengths of both rectangles.

Rectangle P

$? \times (x-3) = 2$

$? = \frac{2}{x-3}$

$\frac{2}{(x-3)} + \frac{3}{(2x-5)} = 3$

$\frac{2(2x-5)}{(x-3)(2x-5)} + \frac{3(x-3)}{(x-3)(2x-5)} = \frac{3(x-3)(2x-5)}{(\quad)(\quad)}$

$2(2x-5) + 3(x-3) = 3(x-3)(2x-5)$

$4x-10 + 3x-9 = 3(2x^2-11x+15)$

$7x-19 = 6x^2-33x+45$

$0 = 6x^2-40x+64$

$0 = 3x^2-20x+32$

$0 = (3x-16)(x-2)$

$3x-16=0$

$x = \frac{16}{3}$

$x-2=0$

$x=2$

Length of rectangle P _____ cm Length of rectangle Q _____ cm [7]