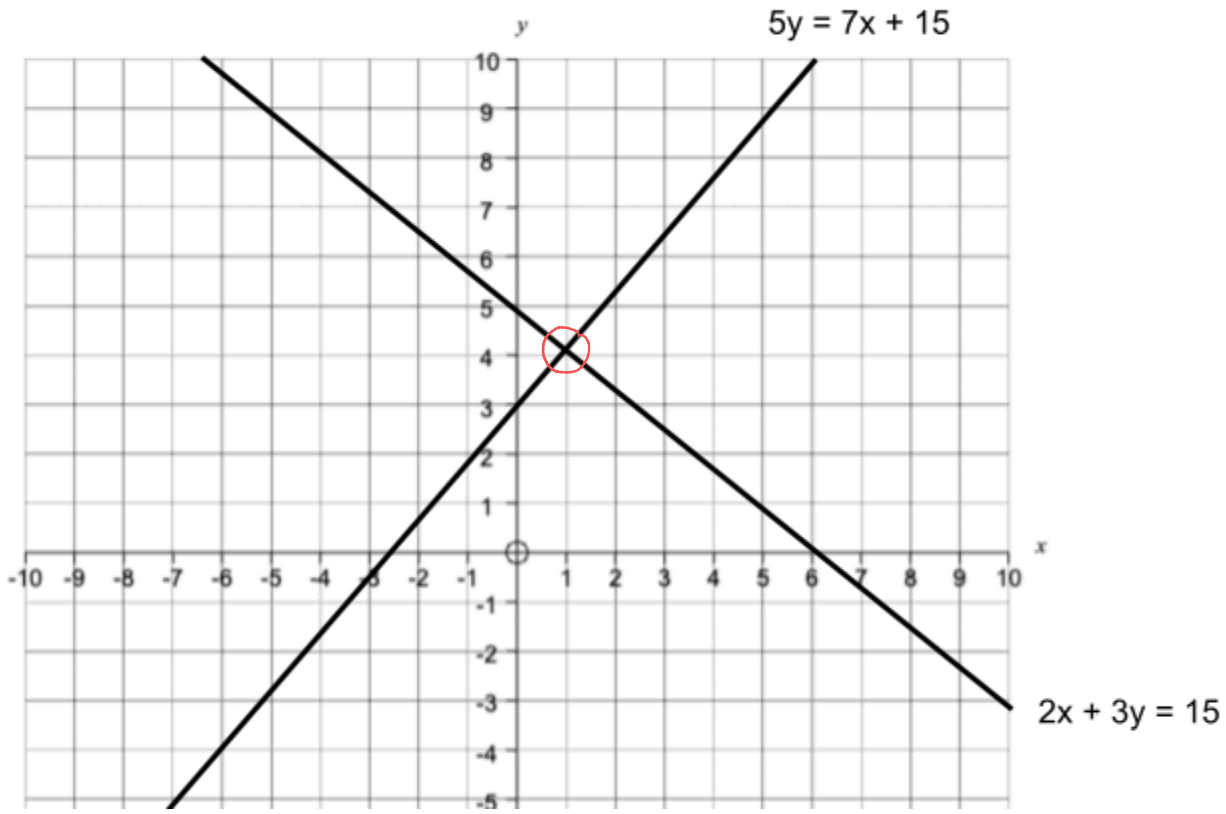
Graphical Simultaneous Equations

Exam Style Questions

1. Below are the graphs of

$$5y = 7x + 15$$
$$2x + 3y = 15$$



Use the graphs to solve the simultaneous equations

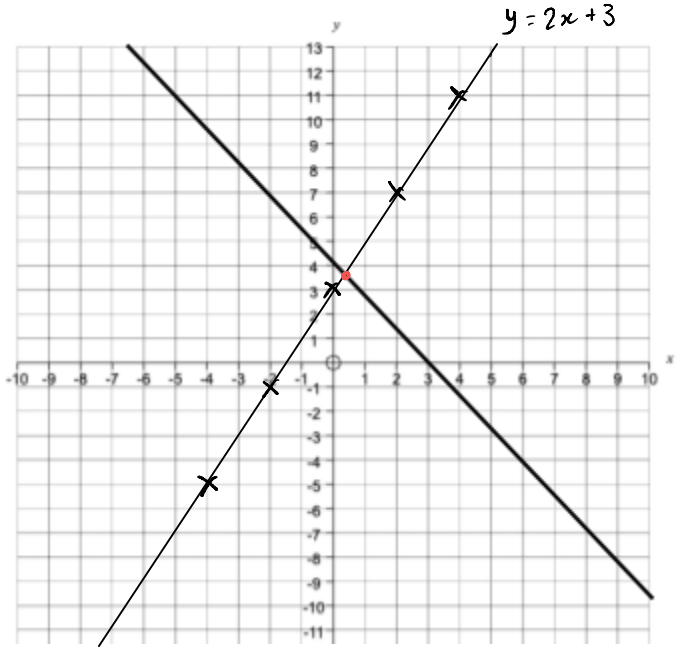
$$5y = 7x + 15$$
$$2x + 3y = 15$$

$x = \ldots 1 \ldots$

$y = \ldots 4 \ldots$

(2 marks)

2. Below is the graph of $4x + 3y = 12$



(a) Complete the table of values for the line with the equation $y = 2x + 3$ (2)

x	-4	-2	0	2	4
y	-5	-1	3	7	11
	2(-4)+3	2(-2)+3	2(0)+3	2(2)+3	2(4)+3

(b) On the above graph, sketch the line with equation $y = 2x + 3$ (1)

(c) Hence, use the graphs to estimate the solutions to the simultaneous equations

$$4x + 3y = 12$$
$$y = 2x + 3$$

$x =$ 0·3
$y =$ 3·6

Point of intersection $\approx (0{\cdot}3, 3{\cdot}6)$

(2)

(5 marks)

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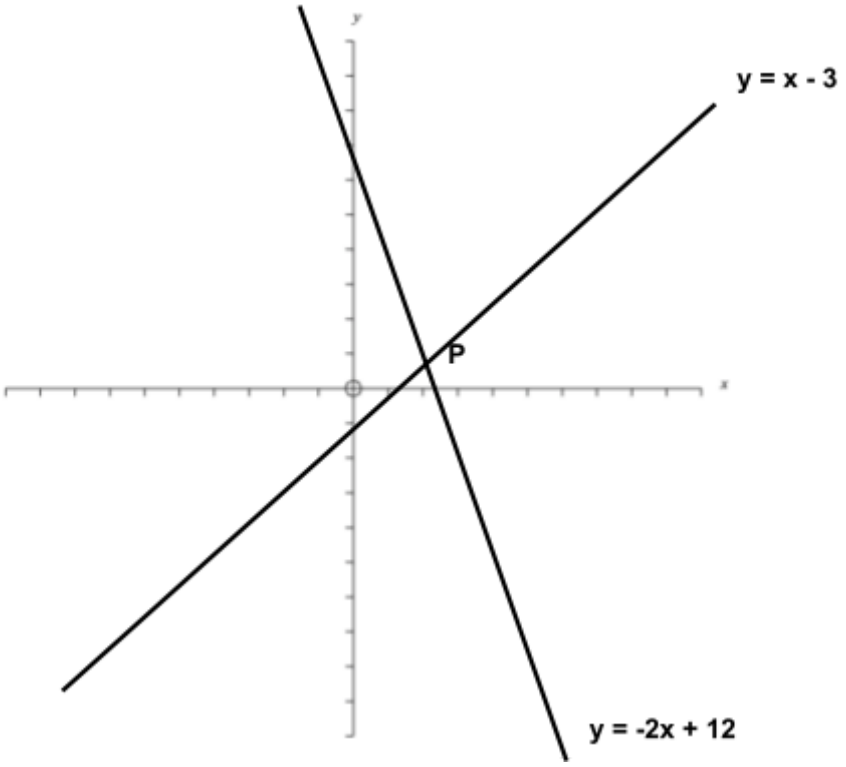
3. Below are lines with equations $y = x - 3$ and $y = -2x + 12$.



The point P is where the two lines intersect. Find the coordinates of the point P.

$y = x - 3 \Rightarrow -x + y = -3$

$y = -2x + 12 \Rightarrow 2x + y = 12$

$-3x = -15$

$x = 5$

$y = 5 - 3 = 2$

(5, 2)

(3 marks)