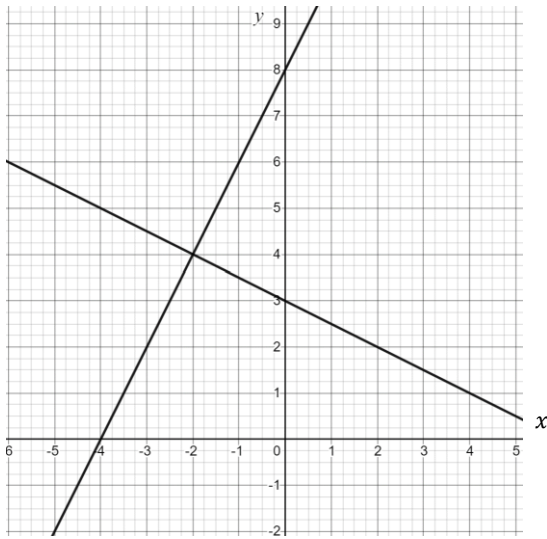


## Solving Simultaneous Equations Graphically Exam Practice



Q1. The graphs of  $2y + x = 6$  and  $y - 2x = 8$  are drawn below:



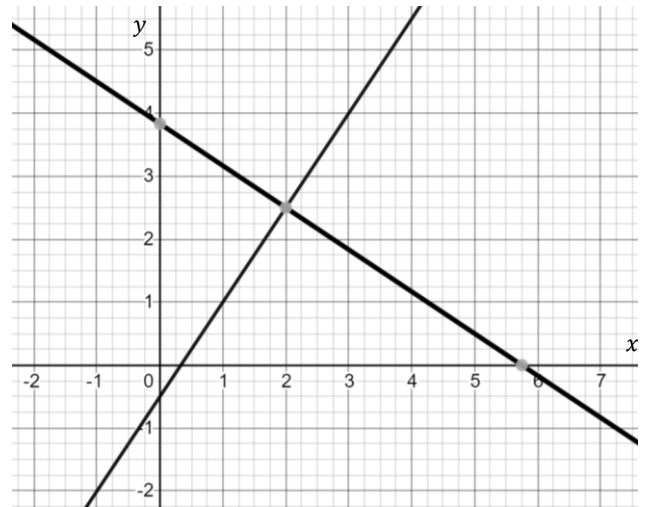
Use the graphs to solve the following pair of equations:

$$2y + x = 6$$

$$y - 2x = 8$$

[2 marks]

Q2. The graphs of  $3x - 2y = 1$  and  $4x + 6y = 23$  are drawn below:



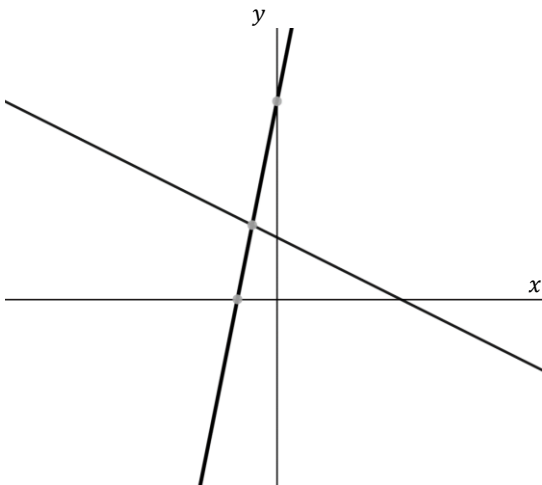
Use the graphs to solve the following pair of equations:

$$3x - 2y = 1$$

$$4x + 6y = 23$$

[2 marks]

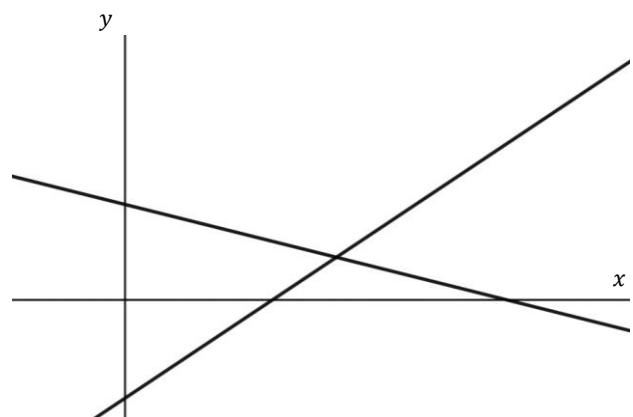
Q3. A sketch of the graphs of  $y - 5x = 4$  and  $4x + 8y = 10$  is shown below:



Find the exact co-ordinates of the point of intersection.

[4 marks]

Q4. A sketch of the graphs of  $6x - 9y = 14$  and  $2x + 8y = 12$  is shown below:

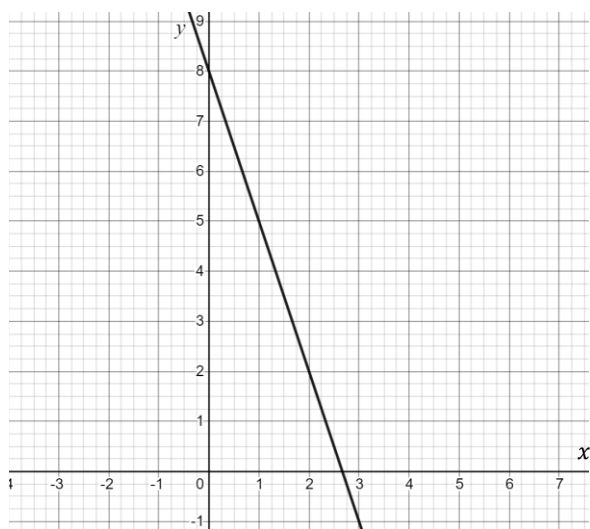


Find the exact co-ordinates of the point of intersection.

[4 marks]



Q5. The graph of  $y + 3x = 8$  is drawn below:



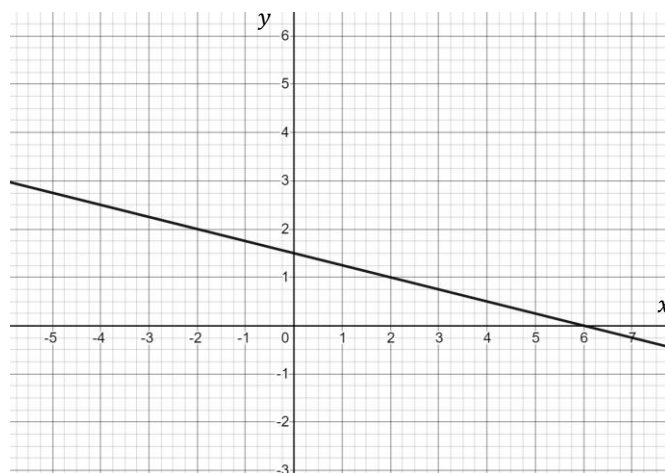
By drawing a suitable line on the grid solve following pair of equations:

$$y - 2x = 3$$

$$y + 3x = 8$$

[3 marks]

Q6. The graph of  $x + 4y = 6$  and is drawn below:



By drawing a suitable line on the grid solve following pair of equations:

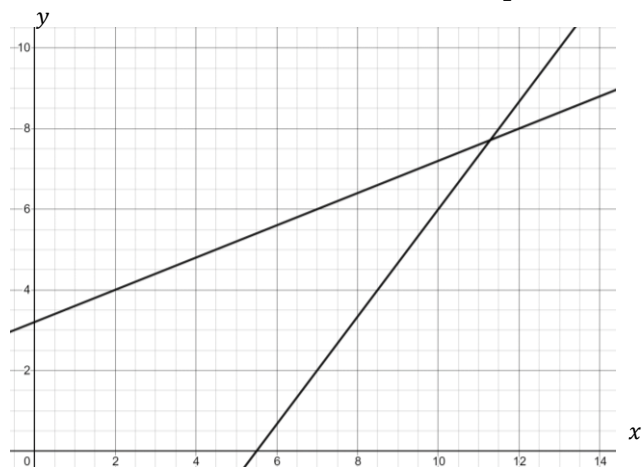
$$2y - 3x = 10$$

$$x + 4y = 6$$

[3 marks]

Q7.(i) Using the grid below, estimate the solution of the equations  $4x - 3y = 22$  and  $5y - 2x = 16$

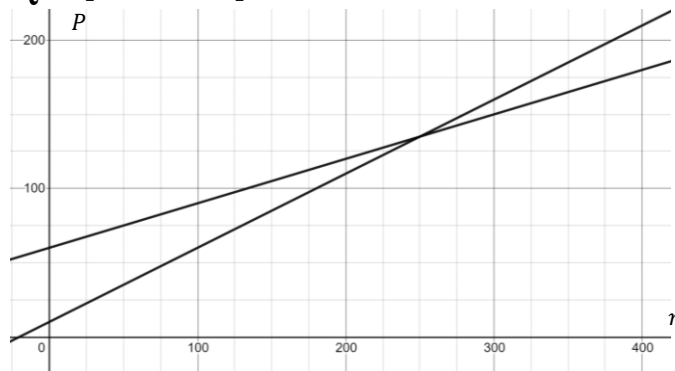
[2 marks]



(ii) How many solutions would the following set of equations have:  
 $4x - 3y = 22$ ,  $5y - 2x = 16$ ,  $y = 10$

[2 marks]

Q8. [3 marks]



In a firm, the profit  $P$  (£1000's), from the number  $n$  of items sold is modelled by 2 staff. One claims the model should be  $P = 0.5n + 20$ , the other says it should be  $P = 0.35n + 60$ . The boss will award a staff pay-rise if the two models agree on a profit which exceeds £125,000.

Decide if there will be a pay-rise.