

1 Solve the simultaneous equations

$$\begin{aligned}3x + y &= -4 \\ 3x - 4y &= 6\end{aligned}$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 1 is 3 marks)

2 Solve the simultaneous equations

$$3x + 4y = 5$$

$$2x - 3y = 9$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 2 is 4 marks)

3 Solve the simultaneous equations

$$4x + y = 25$$

$$x - 3y = 16$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 3 is 3 marks)

4 Solve the simultaneous equations

$$\begin{aligned}5x + y &= 21 \\ x - 3y &= 9\end{aligned}$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 4 is 3 marks)

5 Solve

$$2x + 3y = \frac{2}{3}$$

$$3x - 4y = 18$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 5 is 4 marks)

6 Solve the simultaneous equations

$$5x + 2y = 11$$

$$4x - 3y = 18$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 6 is 4 marks)

7 Solve the simultaneous equations

$$3x + 2y = 4$$

$$4x + 5y = 17$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 7 is 4 marks)

8 Solve the simultaneous equations

$$5x + 2y = 11$$

$$4x + 3y = 6$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 8 is 4 marks)

9 Solve the simultaneous equations

$$\begin{aligned}4x + 7y &= 1 \\3x + 10y &= 15\end{aligned}$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 9 is 4 marks)

10 Solve the simultaneous equations

$$\begin{aligned}9x + 7y &= 3 \\ 5x - 4y &= 6.4\end{aligned}$$

Show clear algebraic working.

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots$$

(Total for Question 10 is 4 marks)

- 11** 3 teas and 2 coffees have a total cost of £7.80
5 teas and 4 coffees have a total cost of £14.20

Work out the cost of one tea and the cost of one coffee.

tea £.....

coffee £.....

(Total for Question 11 is 4 marks)

- 12** Alison buys 5 apples and 3 pears for a total cost of \$1.96
Greg buys 3 apples and 2 pears for a total cost of \$1.22

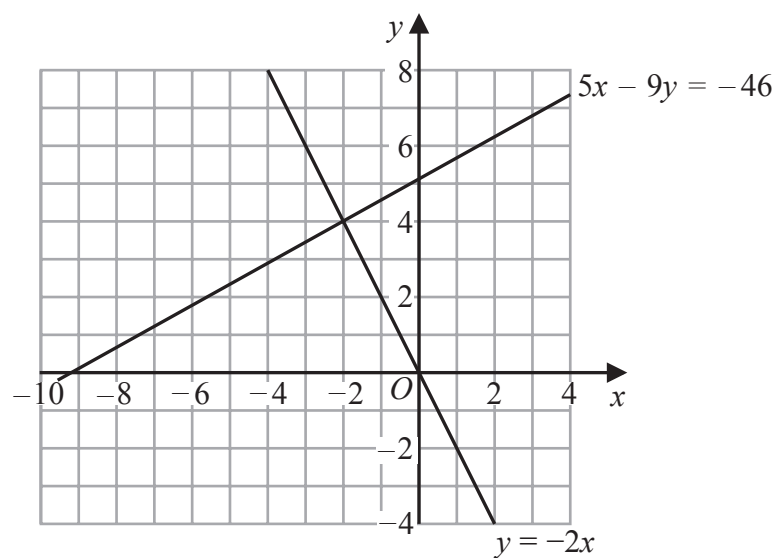
Michael buys 10 apples and 10 pears.

Work out how much Michael pays for his 10 apples and 10 pears.
Show your working clearly.

\$.....

(Total for Question 12 is 5 marks)

13



(a) Use these graphs to solve the simultaneous equations

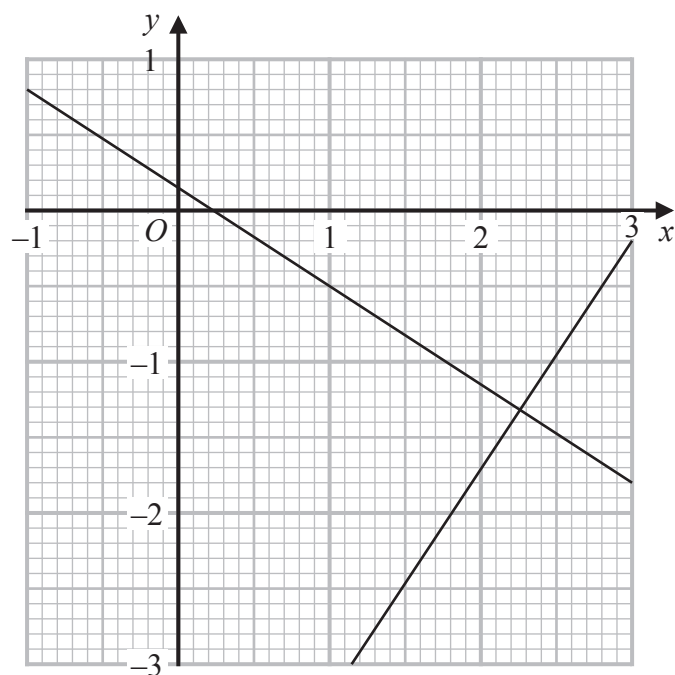
$$\begin{aligned}5x - 9y &= -46 \\ y &= -2x\end{aligned}$$

$x =$

$y =$

(Total for Question 13 is 1 mark)

- 14** The graphs with equations $3y + 2x = \frac{1}{2}$ and $2y - 3x = -\frac{113}{12}$ have been drawn on the grid below.



Using the graphs, find estimates of the solutions of the simultaneous equations

$$3y + 2x = \frac{1}{2}$$

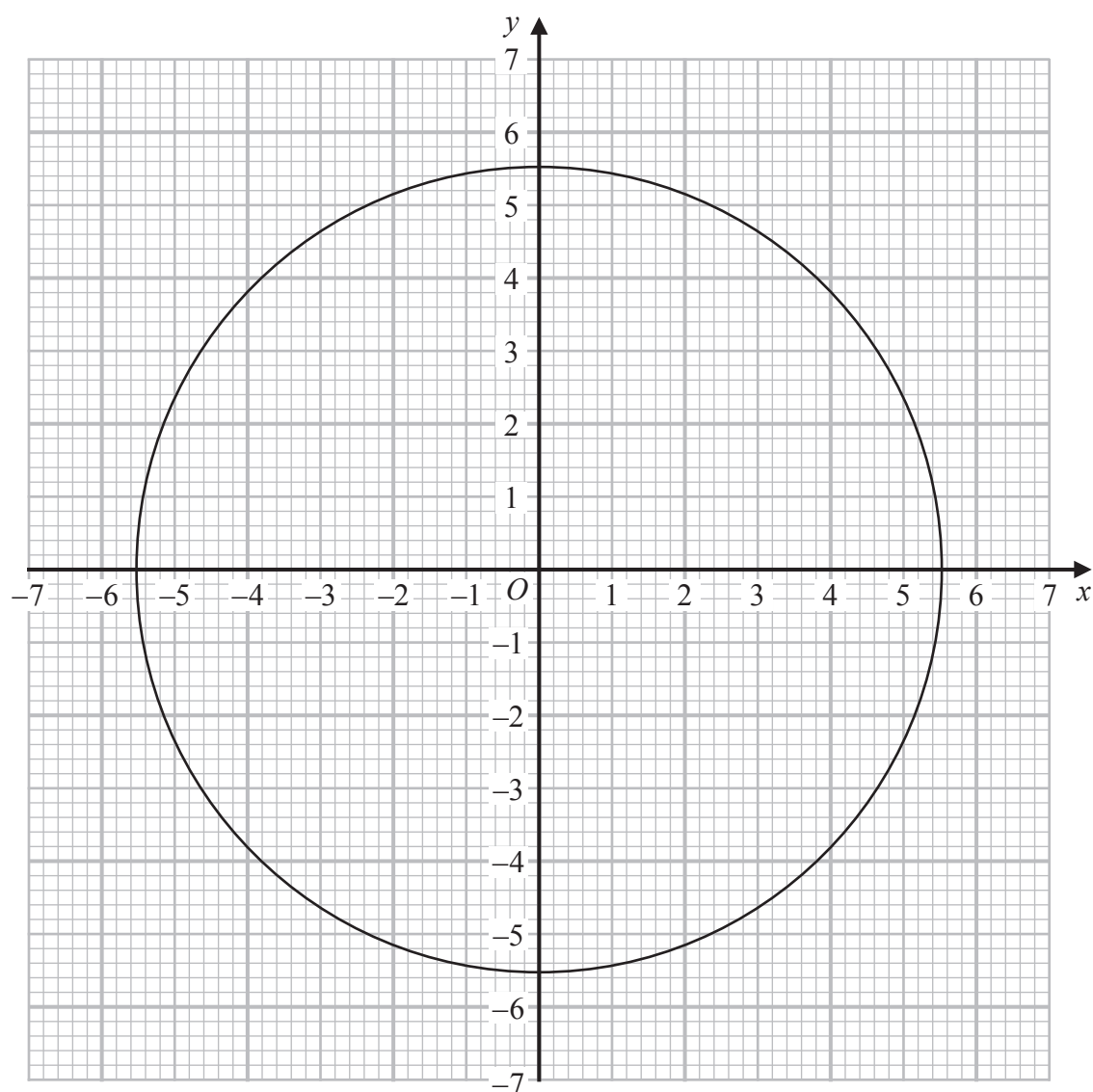
$$2y - 3x = -\frac{113}{12}$$

$x =$

$y =$

(Total for Question 14 is 2 marks)

15 The diagram shows the graph of $x^2 + y^2 = 30.25$

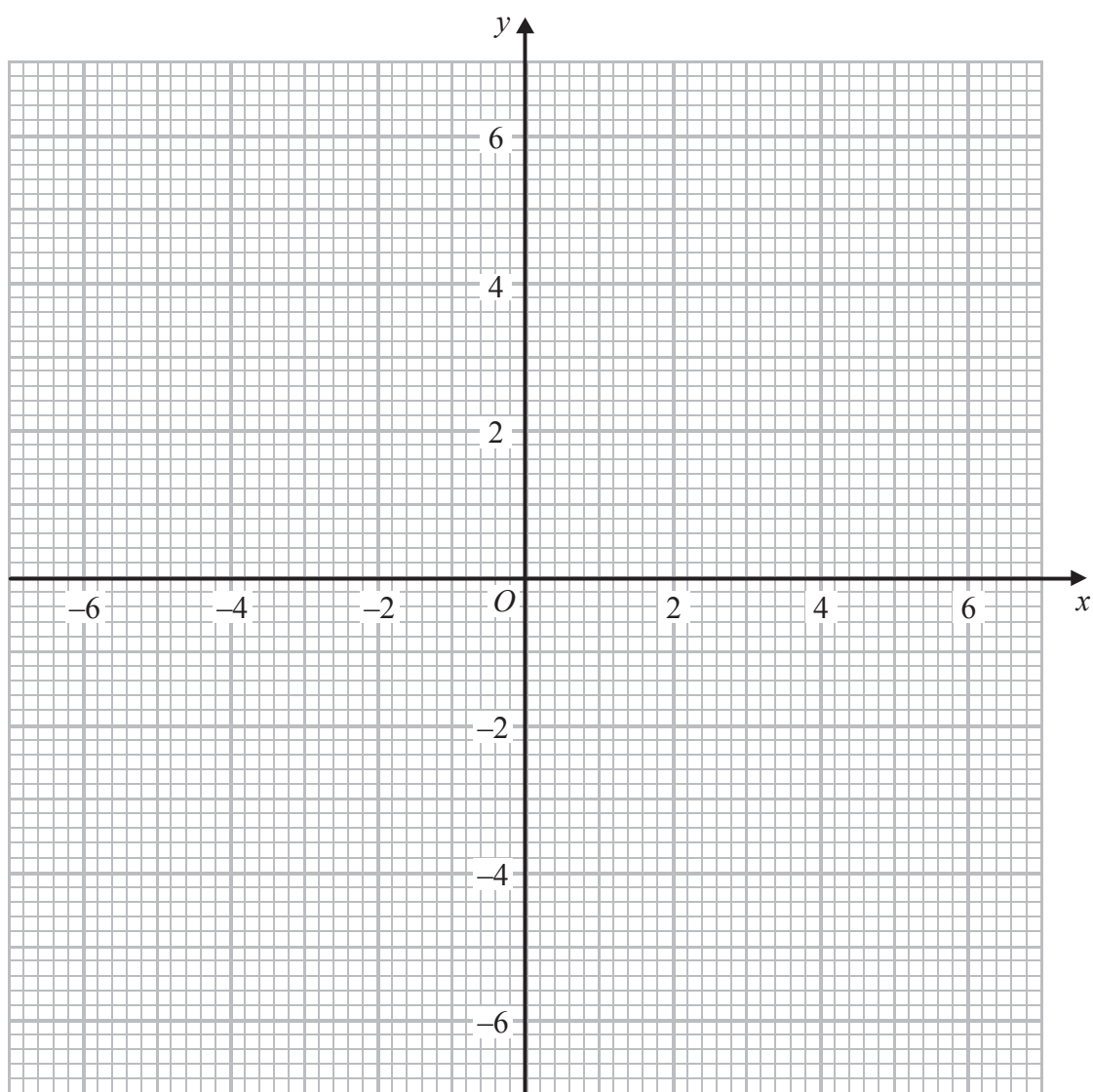


Use the graph to find estimates for the solutions of the simultaneous equations

$$\begin{aligned}x^2 + y^2 &= 30.25 \\ y - 2x &= 1\end{aligned}$$

(Total for Question 15 is 3 marks)

16 (a) On the grid, draw the graph of $x^2 + y^2 = 12.25$



(2)

(b) Hence find estimates for the solutions of the simultaneous equations

$$x^2 + y^2 = 12.25$$

$$2x + y = 1$$

(3)

(Total for Question 16 is 5 marks)

17 Solve the equations

$$\begin{aligned}x^2 + y^2 &= 36 \\ x &= 2y + 6\end{aligned}$$

(Total for Question 17 is 5 marks)
