Higher Maths Sample 2 P1 Q5

Circle the correct answer for each of the following statements.

(a) The gradient of the line $2y = 4x + 3$ is

$\frac{1}{2}$ $\frac{3}{2}$ $\frac{2}{3}$ $\frac{3}{4}$ 2

[1]

(b) The line $3y = 5x - 6$ crosses the y-axis *at*

$y = -2$ $y = -\frac{1}{2}$ $y = 2$ $y = \frac{5}{3}$ $y = \frac{1}{2}$

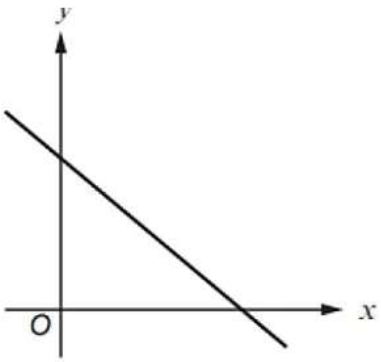
[1]

(c) The line $y = 3x - 2$ has a point with coordinates

(3 , –2) (0 , 2) (-3 , 2) (2 , 3) (3 , 7)

[1]

Higher Maths June 2017 P1 Q4



Which **one** of the following equations could represent the line shown in the graph above?
Circle your answer. [1]

$y = -x - 2$ $y = -x + 2$ $y = x + 2$ $y = x - 2$ $y = -x$.

(b) Which **one** of the following points lies on the line $2y = 3x + 4$?
Circle your answer. [1]

(2, –5) (5, 2) (–2, 5) (2, 5) (–2, –5)

Higher Maths Nov 2018 P2 Q6

(a) What is the gradient of the straight line with equation $6y = 3x + 7$?
Circle the correct answer. [1]

$\frac{1}{2}$ 6 2 3 $\frac{7}{6}$

(b) What is the value of y at the point where the line $5x + y + 3 = 0$ crosses the y-axis?
Circle the correct answer. [1]

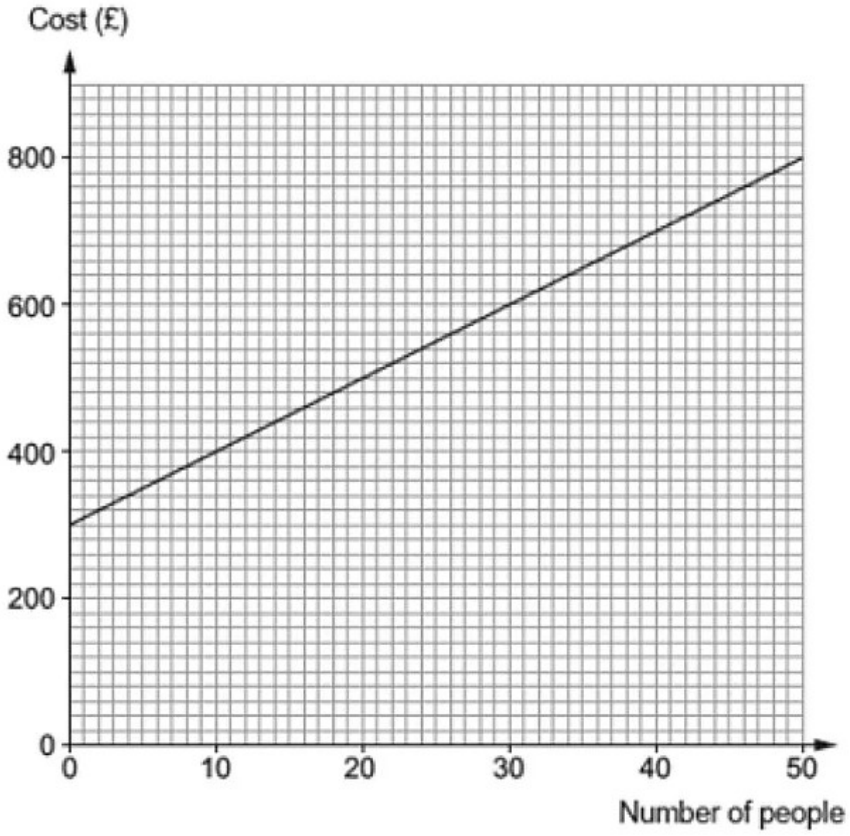
0 −5 3 −3 $\frac{5}{3}$

(c) What are the coordinates of the point where the lines with equations $x + y = 7$ and $x - y = 3$ intersect?
Circle the correct answer. [1]

(4, 3) (7, 4) (5, 2) (3, 7) (−5, 2)

Higher Numeracy Sample 1 P1 Q6

Ffion has organised a conference in the *Hafod Hotel*.
The hotel has given Ffion a graph to illustrate the costs for room hire with refreshments for different numbers of people.



(a) (i) Calculate the gradient of the straight line graph. [2]

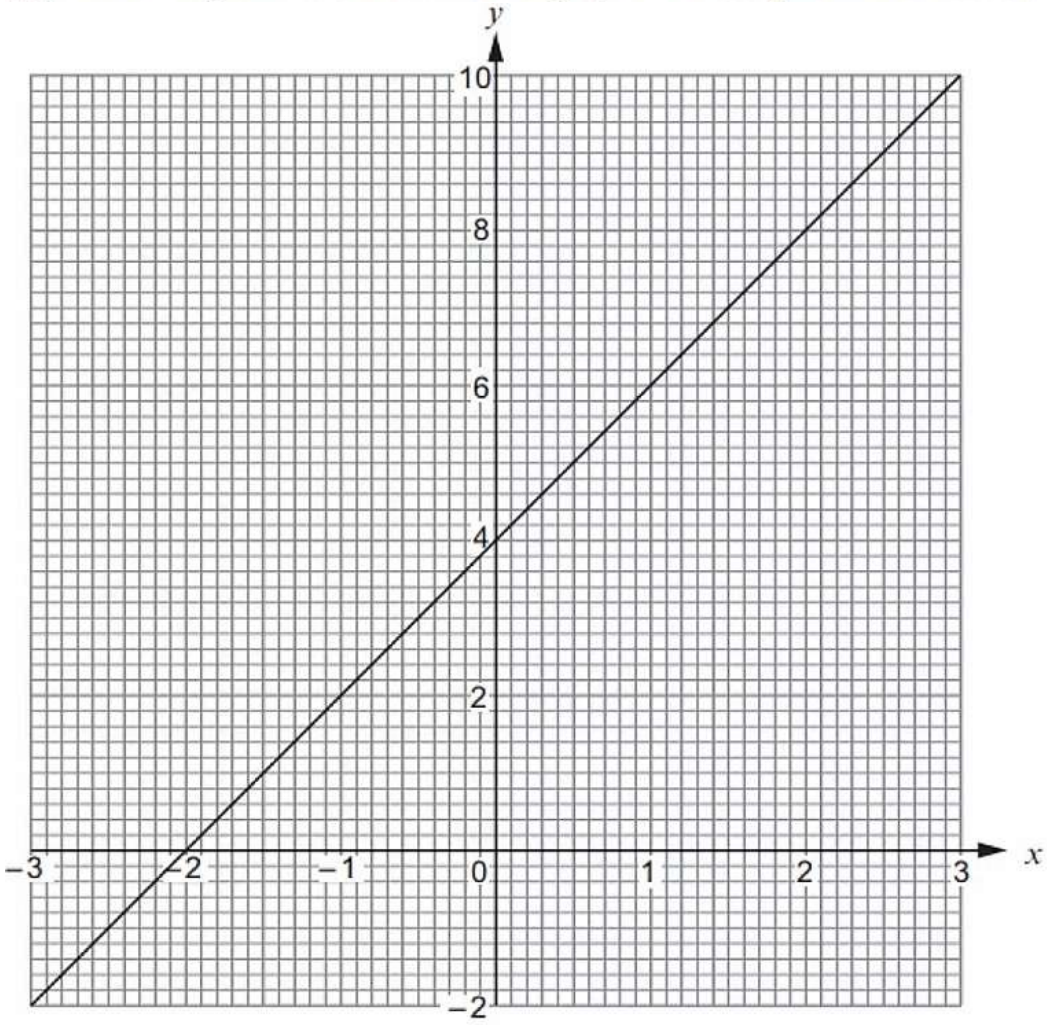
(ii) Explain what the gradient tells you about the conference costs. [1]

(iii) The straight line graph intersects the vertical axis at £300.
Explain what this tells you about the conference costs. [1]

(b) 20 more people arrived at the conference than Ffion had expected.
The hotel prepared extra food and set out more chairs in the conference room.
Calculate how much **extra** Ffion has to pay the hotel. [1]

Higher Maths Nov 2016 P2 Q6

(a) The diagram below shows the graph of a straight line for values of x from −3 to 3.



(i) Write down the gradient of the above line. [1]

(ii) Write down the equation of the line in the form $y = mx + c$, where m and c are whole numbers. [2]

(b) Without drawing, show that the line $2y = 5x - 3$ is parallel to the line $4y = 10x + 7$. You must show working to support your answer. [2]

Higher Maths Sample 1 P2 Q8

A sketch of the graph of the straight line $y = 7x + 2$ is shown below.

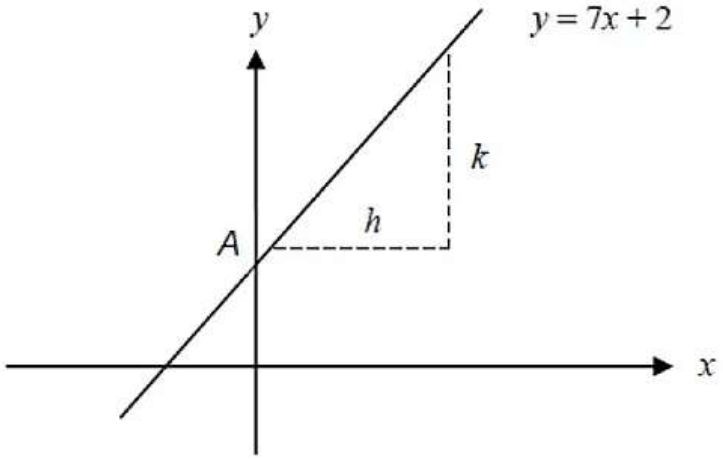


Diagram not drawn to scale

(a) What are the coordinates of the point *A*, where the line cuts the *y*-axis? Circle your answer. [1]

(2 , 0) (7, 0) (0, 2) (0, 7) (7, 2)

(b) When h is equal to 1 unit, what is the value of k? Circle your answer. [1]

2 units 7 units 1 unit 3·5 units 14 units

(c) Which of the following equations is an equation of a straight line that is perpendicular to $y = 7x + 2$? Circle your answer. [1]

$y = 7x + 3$ $y = \frac{x}{7} + 3$ $y = 7x + 3$ $y = -\frac{x}{7} + 3$ $y = 2x + 7$

Higher Maths June 2017 P2 Q9

9. *(a)* Circle the equation of a straight line that is parallel to the line $3y = 2x + 6$. [1]

$3y = 2x + 7$ $2y = 3x + 6$ $3y = -2x + 6$ $-3y = 2x + 6$ $2y = -3x + 6$

(b) Circle the equation of a straight line that is perpendicular to the line $y = 5x - 3$. [1]

$y = \frac{x}{5} + 3$ $y = 5x + 3$ $y = 5x + \frac{1}{3}$ $y = -5x + 3$ $y = \frac{-x}{5} + 3$
