

GCSE Maths Straight-Line Graphs and Coordinates (Higher): check-up and exam-style questions: worksheet

GCSE Maths - Straight-Line Graphs and Coordinates - Higher - Test yourself

Name: _____

Date: _____

Score: _____

26 questions. Write your answers in the spaces. Answers and step-by-step help are free at websink.site/gcse/maths/ch12-straight-line-graphs-coordinates/higher/check-up-and-exam-style-questions/

Exercise 12Z Check-up (non-calculator)

Non-calculator

- 1 Which quadrant is the point $(-3, 5)$ in?

Answer: _____

- 2 Find the midpoint of $A(-2, 3)$ and $B(6, 9)$.

Answer: _____

- 3 Work out the gradient of the line through $(1, 2)$ and $(4, 11)$.

Answer: _____

- 4 Complete a table of values for $y = 2x - 3$ for $x = -1, 0$ and 2 .

Answer: _____

- 5 Write down the gradient and y -intercept of the line $y = 5 - 2x$.

Answer: _____

- 6 Find the equation of the line with gradient -2 that passes through $(1, 4)$.

Answer: _____

- 7 Find the equation of the line parallel to $y = 3x + 1$ that passes through $(0, -2)$.

Answer: _____

- 8 Is the point $(2, 7)$ on the line $y = 3x + 1$?

Answer: _____

- 9 Work out the length of the line from $(0, 0)$ to $(5, 12)$.

Answer: _____

- 10 Find the equation of the line through $(0, 1)$ and $(2, 5)$.

Answer: _____

Exercise 12X Exam-style questions

Non-calculator

- 1 ABCD is a parallelogram. A is $(-2, 1)$, B is $(1, -2)$ and C is $(5, -2)$. Write down the coordinates of D. [2 marks]

Answer: _____

- 2 A is the point $(-3, 4)$ and B is the point $(5, -2)$. Find the coordinates of the midpoint of AB. [2 marks]

Answer: _____

- 3 A is the point $(-2, 1)$ and B is the point $(4, 5)$. Work out the length of AB. Give your answer correct to 1 decimal place. [3 marks]

Answer:

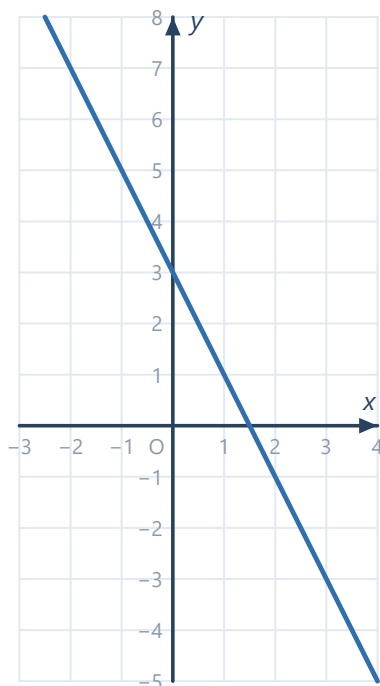
- 4 (a) Complete a table of values for $y = 2x - 3$ for values of x from -1 to 4 . (b) Draw the graph of $y = 2x - 3$.

Answer:

[3 marks]

- 5 Find the equation of the straight line shown on the grid.

[3 marks]



Answer:

- 6 A straight line passes through the points $(1, 5)$ and $(4, 11)$. Find the equation of the line.

[3 marks]

Answer:

- 7 The line L has equation $y = 3x - 2$. Find the equation of the line that is parallel to L and passes through the point $(1, 7)$.

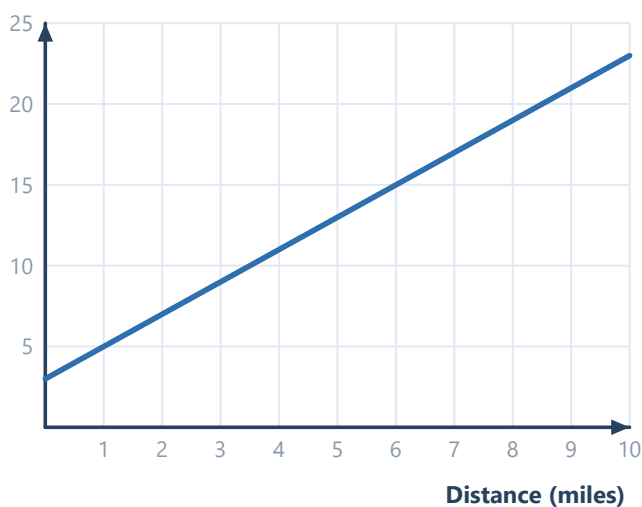
[3 marks]

Answer:

- 8 The graph shows the cost, $\pounds C$, of a taxi journey of n miles. (a) Work out the cost of a journey of 4 miles. (b) Rob pays $\pounds 15$. How many miles was his journey? (c) Work out the cost per mile.

[4 marks]

Cost (£)



(a) the cost of 4 miles

Answer:

(b) the distance for £15

Answer:

(c) the cost per mile

Answer:

- 9 Show that the line $y = 2x + 1$ is parallel to the line $2y - 4x = 7$.

[2 marks]

Answer:

- 10 On the same grid, draw the graphs of $y = x + 1$ and $y = 5 - x$ for x from 0 to 5. Write down the coordinates of the point where the two lines cross.

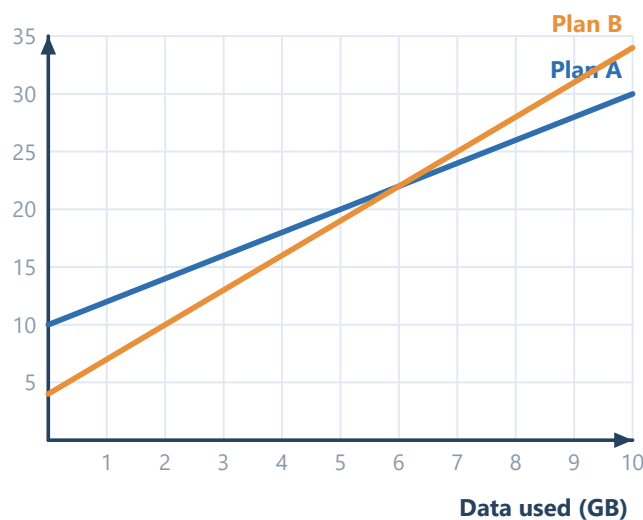
[4 marks]

Answer:

- 11 The cost of Plan A is £10 plus £2 per GB, and the cost of Plan B is £4 plus £3 per GB. Use the graph to find the amount of data for which the plans cost the same, and say which plan is cheaper for 8 GB.

[3 marks]

Monthly cost (£)



Data used (GB)

Answer:

- 12 A is (0, 1) and B is (4, 3). Find an equation of the line through (2, 5) that is perpendicular to AB.

[4 marks]

Answer:

- 13 A is (0, 1) and B is (4, 3). Find the equation of the perpendicular bisector of AB.

[5 marks]

Answer:

- 14 The vertices of triangle ABC are A(1, 1), B(5, 3) and C(3, 7). Show that the triangle is isosceles.

[4 marks]

Answer:

- 15 Find the coordinates of the point where the lines $y = 3x - 2$ and $y = x + 4$ cross.

[4 marks]

Answer:

- 16 A circle has centre C(2, 1). The point P(6, 4) is on the circle. Find the equation of the tangent to the circle at P.

[5 marks]

Answer: