

Equation of a line through two points

Grade 6 | Higher | 14 questions, 46 marks

GCSE Maths topic practice



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Name: _____ **Date:** _____ **Score:** _____ / 46

- 1** A straight line passes through the points (0, -3) and (2, 5).

Find the equation of the line.

Give your answer in the form $y = mx + c$

(3 marks)

Answer _____

- 2** A straight line passes through the points (1, 7) and (3, 13).

Find the equation of the line.

Give your answer in the form $y = mx + c$

(3 marks)

Answer _____

- 3** A straight line has gradient -2 and passes through the point (3, 1).

Find the equation of the line.

(3 marks)

Answer _____

- 4** A straight line passes through the points A (2, 5) and B (6, 17).

Work out the gradient of the line.

(2 marks)

Answer _____

- 5 A straight line passes through the points $(-2, 1)$ and $(2, 9)$.

Find the equation of the line.

Give your answer in the form $y = mx + c$

(3 marks)

Answer _____

- 6 A straight line passes through the points P $(-3, 4)$ and Q $(5, -8)$.

Work out the gradient of the line.

(2 marks)

Answer _____

- 7 A straight line passes through the points $(4, -1)$ and $(6, -7)$.

Find the equation of the line.

(3 marks)

Answer _____

- 8 A straight line passes through the points $(2, 1)$ and $(6, 4)$.

Find the equation of the line.

Give your answer in the form $y = mx + c$.

(3 marks)

Answer _____

- 9 A straight line passes through the points $(-3, 5)$ and $(3, 1)$.

Find the equation of the line.

(3 marks)

Answer _____

10 A straight line passes through the points $(-2, -1)$ and $(4, 8)$.

- Find the equation of the line.
- Show that the point $(8, 14)$ lies on the line.

(4 marks)

Answer _____

11 A straight line passes through $A(-4, 3)$ and $B(6, -2)$.

- Find the equation of the line.
- Find the coordinates of the point where the line crosses the x -axis.

(4 marks)

Answer _____

12 A mobile phone company charges $\pounds C$ for d GB of data a month. The cost is a straight line graph. The cost for 5 GB is $\pounds 14$ and the cost for 20 GB is $\pounds 35$.

- Find a formula for C in terms of d .
- What does the gradient of the line represent?

(4 marks)

Answer _____

13 A is the point (2, 3) and B is the point (6, 11).

M is the midpoint of AB.

Find the equation of the straight line with gradient $\frac{1}{2}$ that passes through M.

(4 marks)

Answer _____

14 A is the point (1, 2) and B is the point (9, 18).

The point P lies on AB so that $AP : PB = 3 : 1$

Show that P lies on the straight line with equation $y = 2x$

(5 marks)

Answer _____

End of questions | Total 46 marks