Test - Straight-line graphs

Year: Year 8 · Duration: 45 minutes · /20

Name:	Date:	**Mark: /20**

Question	1	2	3	4	5	Total
marks	4	4	4	4	4	**20**
Mark						

Show your working.

Question 1 (4 marks)

Question 1 – Gradient and equation

Answer all parts. Show your working.

a. Find the gradient of the line through $(2, 3)$ and $(6, 11)$. (2 marks)
b. Write down the gradient and intercept of $y = 5 - 2x$. (1 mark)
c. Find the equation of the line with gradient 3 through $(0, -4)$. (1 mark)

Question 2 (4 marks)

Question 2 – Table and parallel

Look at the line $y = 2x - 3$.

a. Complete a table of values for $x = -1, 0, 1, 2, 3$. (2 marks)
b. Is the point $(5, 8)$ on the line? Show how you know. (1 mark)
c. Write the equation of a line parallel to this line passing through $(0, 6)$. (1 mark)

Question 3 (4 marks)

Question 3 – Midpoint

The points $A(-3, 2)$ and $B(5, -6)$ are the ends of a line.

a. Find the midpoint of AB. (2 marks)
b. Find the gradient of AB. (1 mark)
c. Write the equation of the line AB. (1 mark)

Question 4 (4 marks)

Question 4 – Problem: the hire shop

A shop hires a ladder for £10 plus £6 per day. Another shop charges £4 plus £8 per day.

a. Write an equation for each hire cost C for d days. (1 mark)
b. Find the number of days for which the two shops charge the same. (2 marks)
c. Which shop is cheaper for 5 days? (1 mark)

Question 5 (4 marks)

Question 5 – Problem: the cinema graph

A cinema club charges a joining fee of £15 and then £4 per film. Another club charges £7 per film with no joining fee.

a. Write an equation for each club. (1 mark)
b. Find the number of films for which the costs are equal. (2 marks)
c. Maya plans to watch 8 films. Which club is cheaper and by how much? (1 mark)