

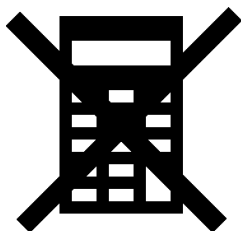
AQA, OCR, Edexcel

**GCSE**

# GCSE Maths

## Gradients of Straight Line Graphs

Name:



### Guidance

1. Read each question carefully.
2. Don't spend too long on each question.
3. Attempt every question.
4. Always show your workings.

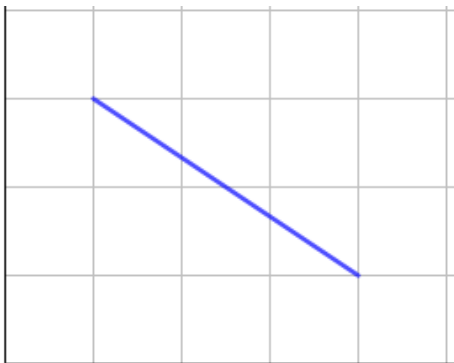
Revise GCSE Maths:

[www.MathsMadeEasy.co.uk/gcse-maths-revision/](http://www.MathsMadeEasy.co.uk/gcse-maths-revision/)

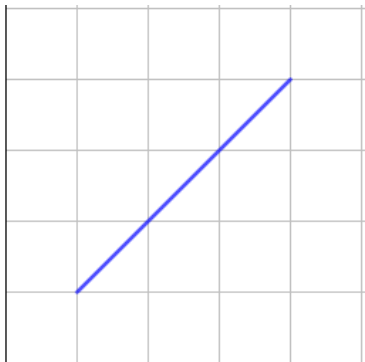
1. Calculate the gradient of each of the lines below.



.....



.....



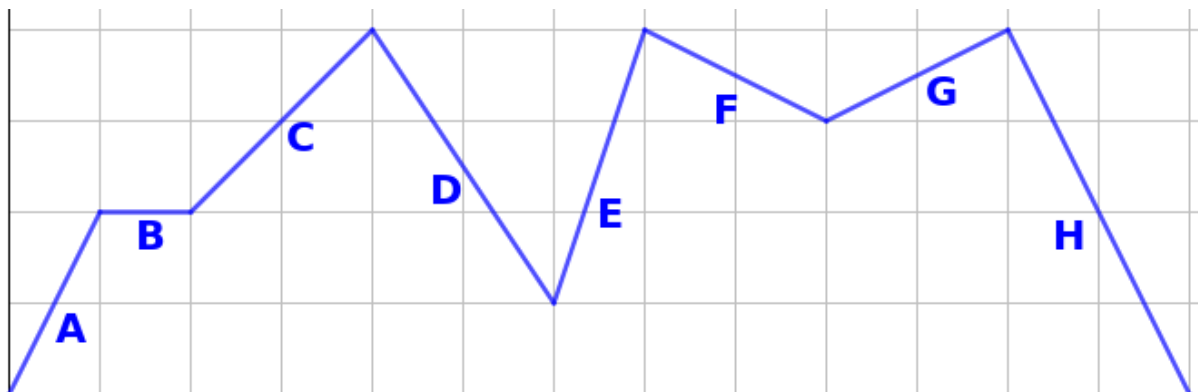
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(4 marks)

2. The line below shows the height a walker reaches on a long trail.



Which section of the graph shows the following?

The steepest positive gradient?

.....

The shallowest positive gradient?

.....

The steepest negative gradient?

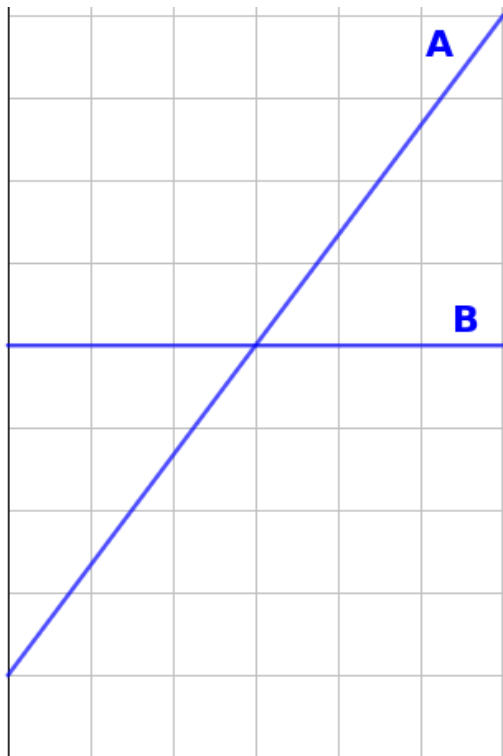
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The shallowest negative gradient?

.....

(4 marks)

3. Calculate the gradients of the lines A and B below.



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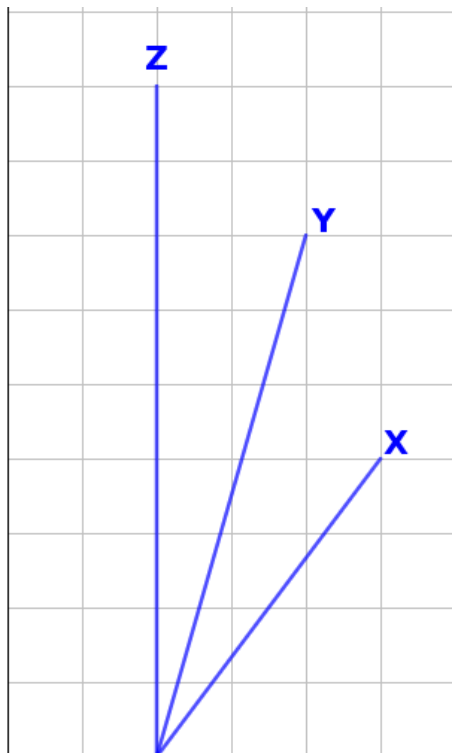
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Gradient of A = .....

Gradient of B = .....

(3 marks)

4. Calculate the gradients of lines X and Y below.



.....  
.....  
.....

Gradient of X = .....

Gradient of Y = .....

Can the gradient of Z be calculated? Give your reasoning.

.....  
.....  
.....

(4 marks)

5. The points (1,5) and (8,7) are on the same straight line.  
What is the gradient of the line?

.....  
.....

Gradient = .....

The points (3,6) and (7, -2) are on the same straight line.  
What is the gradient of the line?

.....  
.....

Gradient = .....

(2 marks, 2 marks)

6. Points A ( $x, y$ ) and B are on the same straight line.  
The  $x$ -coordinate of B is three times the  $x$ -coordinate of A.  
The  $y$ -coordinate of B is four times the  $y$ -coordinate of A.

What is the gradient of the line in terms of  $x$  and  $y$ ?

.....  
.....  
.....

Gradient = .....

(2 marks)

7. A line D is parallel to the line C.  
Two points on C are  $(2, -2)$  and  $(11, 4)$ .  
 $(3, 2)$  is a point on D. Find another point on D.

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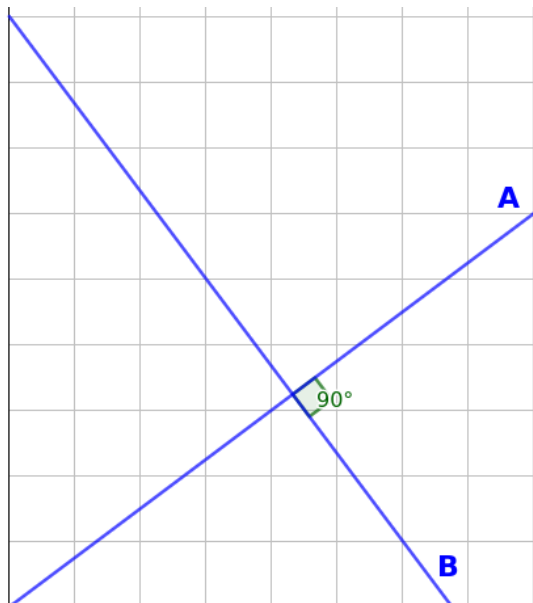
Point = (.....), (.....)

(3 marks)

8. A and B are two perpendicular lines with equations:

$$A: y = mx$$

$$B: y = px + 9$$



Calculate the gradients of A and B, then write down the equations of both lines.

.....

.....

.....

.....

A: .....

B: .....

Describe the relationship between the gradient of two perpendicular lines.

.....

.....

(3 marks, 1 mark)