

Gradient of Straight Lines

Please write clearly in block capitals

Forename:

Surname:

Materials

For this paper you must have:

- mathematical instruments



You **can** use a calculator.

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

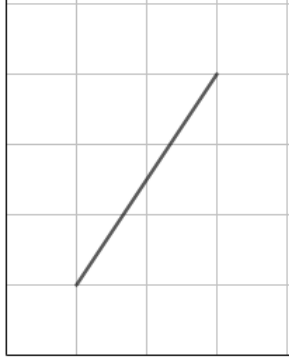
- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

Advice

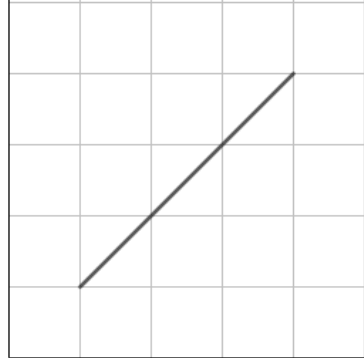
- In all calculations, show clearly how you work out your answer.

1 Calculate the gradient of each line on the centimetre grids below.

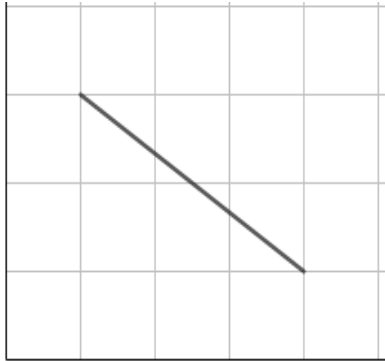
A



C



B



D



[4 marks]

Line A: _____

Line B: _____

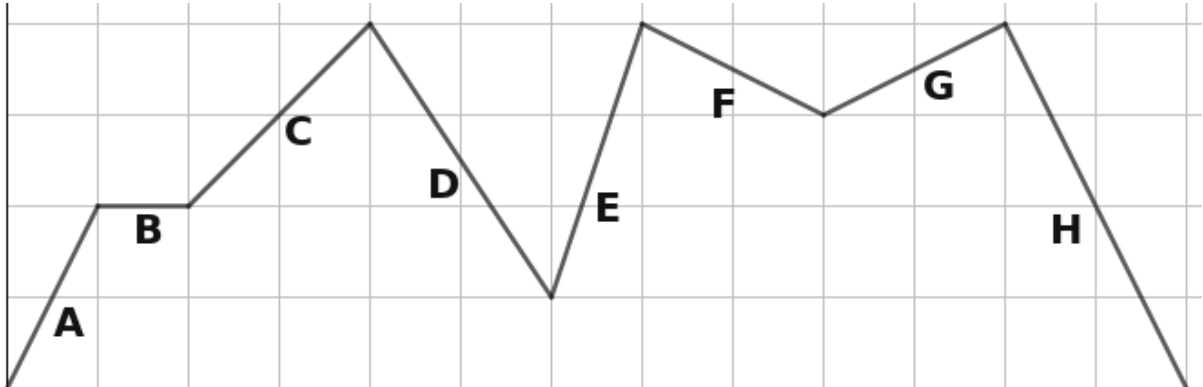
Line C: _____

Line D: _____

Turn over for next question

Turn over ►

- 2 The line below represents the heights a walker reached during a long trail.



Which section of the graph shows the following?

- 2(a) The steepest positive gradient?

[1 mark]

Answer _____

- 2(b) The shallowest positive gradient?

[1 mark]

Answer _____

- 2(c) The steepest negative gradient?

[1 mark]

Answer _____

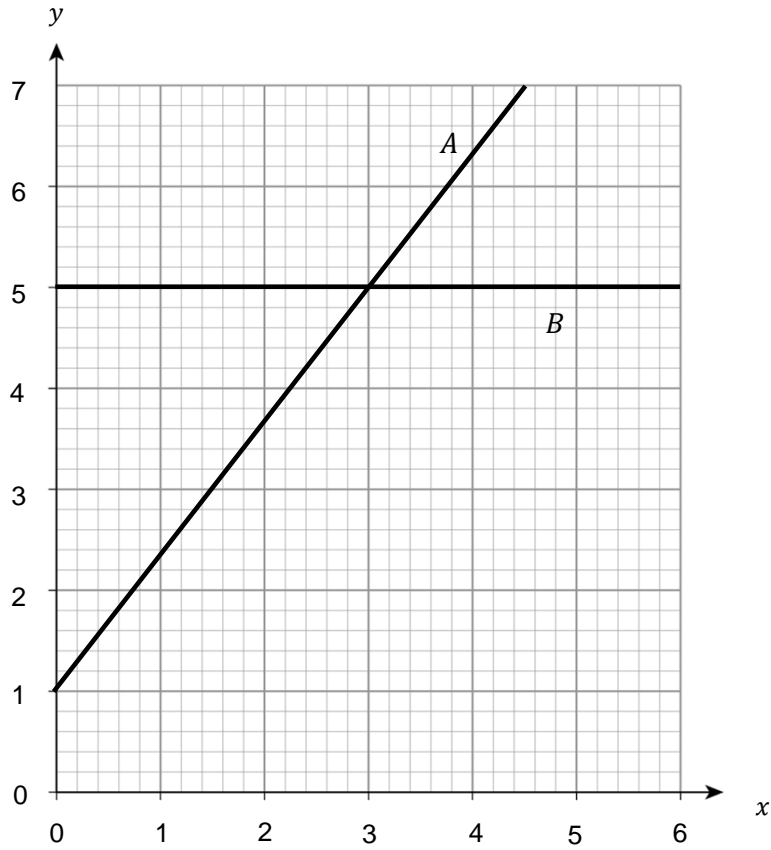
- 2(d) The shallowest negative gradient?

[1 mark]

Answer _____

Turn over for next question

- 3 A and B are straight lines that intersect.



- 3(a) Find the gradient for line A

[1 mark]

Answer _____

- 3(b) Find the gradient for line B

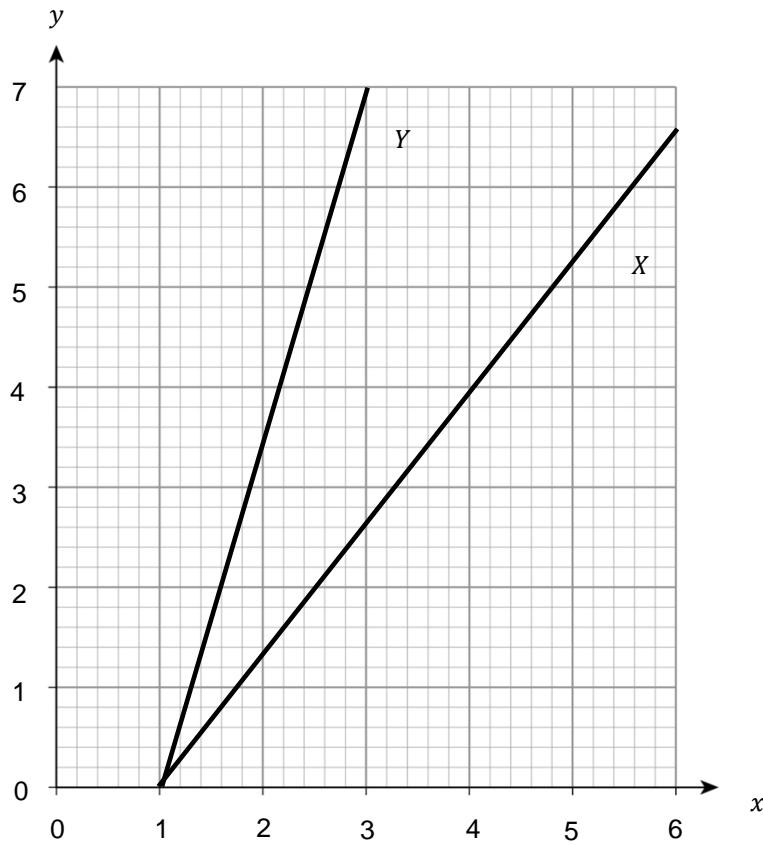
[1 mark]

Answer _____

Turn over for next question

4(a) Calculate the gradients of lines X and Y below.

[2 marks]



Line X : _____

Line Y : _____

Turn over ►

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

[2 marks]

Answer _____

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

[2 marks]

Answer _____

- 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 ?

[2 marks]

Answer _____

End of Questions