

Direct and Inverse Proportion (Level 4 - 6)

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 It takes 4 people 2 days to build a wall. (Level 4)

How long would it take for 2 people to build the same wall.

Give your answer in days

[2 marks]

Answer _____ days

2 12 students need to drink a total of 3 litres of water over the course of an activity. (Level 4)

How much water would be needed for 20 students during the same activity?

Give your answer in litres.

[2 marks]

Answer _____ litres

3 3 friends want to go for a hike. (Level 4)

They pack enough water to last for 6 hours.

3 more people join the hike.

How long will their water last now?

Give your answer in hours.

[2 marks]

Answer _____ Hours

Turn over for next question

- 4(a)** It takes 4 people 2 hours to tidy a house on a building site. *(Level 5)*
How long would it take if 8 people offered to tidy the same house?

[2 marks]

Answer _____

- 4(b)** The time taken to build a house is inversely proportional to the number of builders.
If there are 6 builders, it takes 80 days to complete the house.
How many builders must be employed to build the house in just 16 days?

[2 marks]

Answer _____

- 5** Steve drove at 30 mph for 30 minutes. *(Level 5)*
If he travels at 60 mph over the same distance, how long would it take?

[2 marks]

Answer _____

Turn over for next question

Turn over ►

- 6 A castle under siege has enough food for 300 men for 90 days. (Level 6)
 After 40 days, 150 men have left the castle.
 How long would the food last at the same rate of consumption?

[3 marks]

Answer _____

- 7 It takes 22 hours for a hosepipe with a flow of 12 litres per minute to fill a swimming pool. (Level 6)
 How long will it take if its flow is reduced to 5 litres per minute?

[2 marks]

Answer _____



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