

Name

Class

# MATHS TEACHER HUB

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## Distance-time graphs

(9 – 1) Topic booklet

These questions have been collated from previous years GCSE Mathematics papers.

**You must have:** Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.

Total Marks

### Instructions

- Use **black** ink or ball-point pen.
- Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- You must **show all your working out.**
- If the question is a **1F** question you are not allowed to use a calculator.
- If the question is a **2F** or a **3F** question, you may use a calculator to help you answer.

### Information

- The marks for **each** question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*

### Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

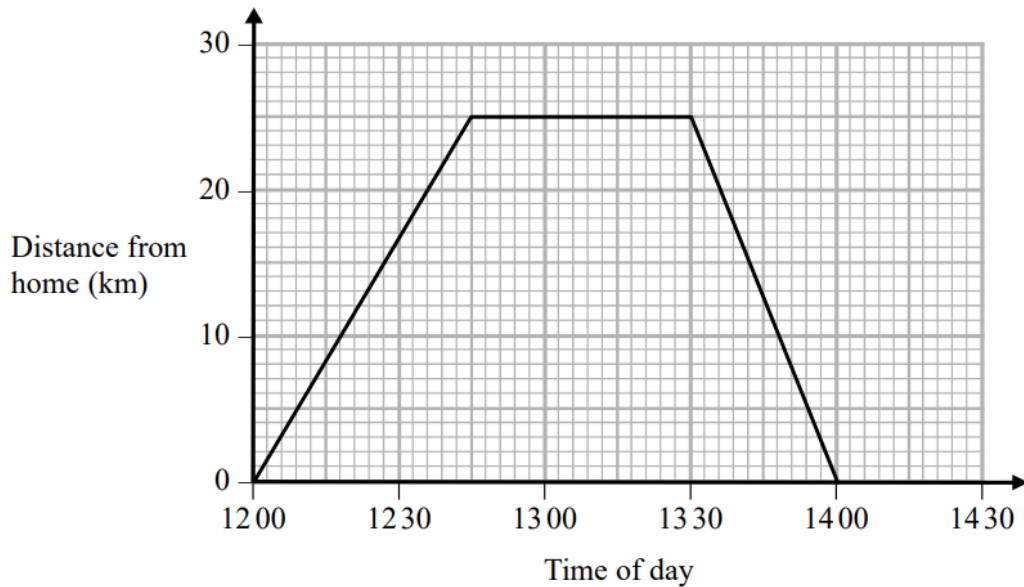
**Answer ALL questions**

**Write your answers in the space provided.**

**You must write down all the stages in your working.**

- 16** Steve drove from his home to his friend's house.  
He stayed at his friend's house and then drove home.

Here is Steve's travel graph.



- (a) For how many minutes did Steve stay at his friend's house?

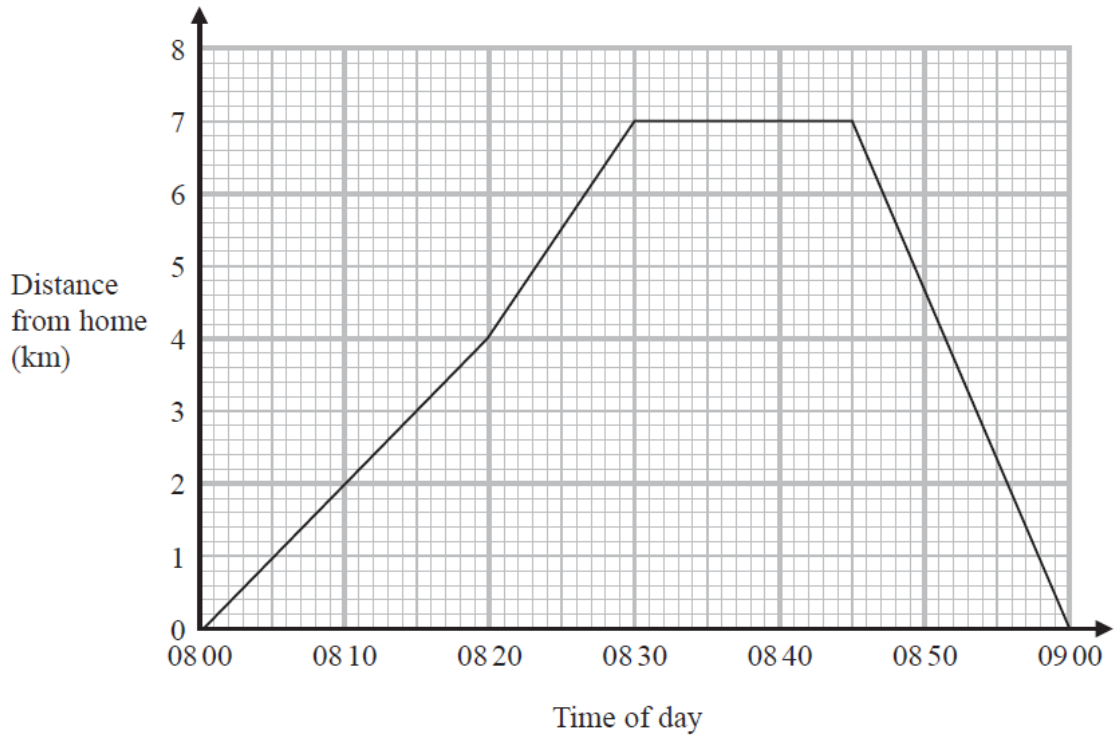
..... minutes  
(1)

- (b) What was Steve's average speed on his journey home?

..... km/h  
(2)

- 19 Carly cycles to her friend's house.  
 She stays at her friend's house for a number of minutes.  
 Then she cycles home.

Here is the travel graph for her journey.



- (a) For how many minutes did Carly stay at her friend's house?

..... minutes  
 (1)

- (b) How far is Carly from her home at 08:50?

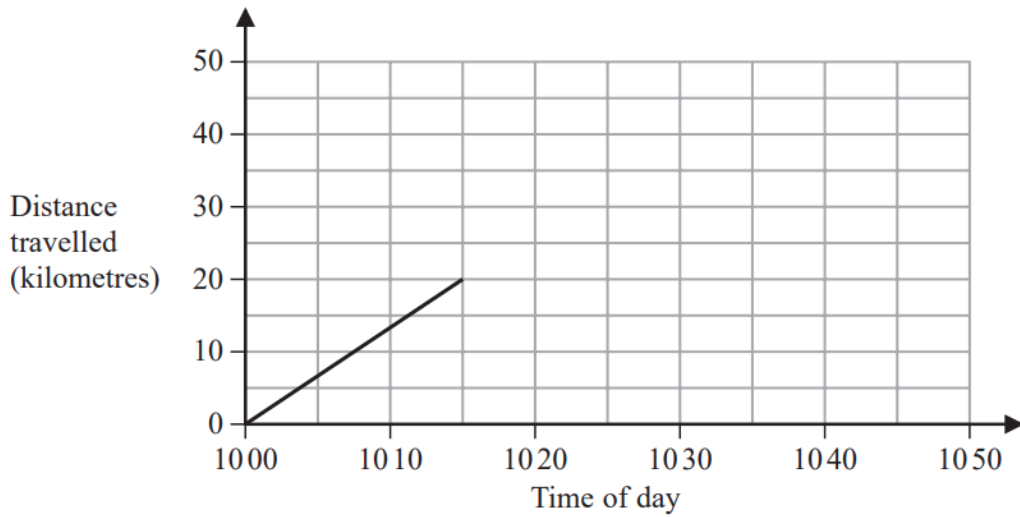
..... km  
 (1)

- (c) Work out Carly's speed, in km/h, for the first 20 minutes of her journey.

..... km/h  
 (2)

23 Sam drives his car on a journey.

Here is the travel graph for the first 15 minutes of his journey.



(a) Work out Sam's speed, in km/h, for the first 15 minutes of his journey.

..... km/h  
(2)

At 1015 Sam stops for 10 minutes and then drives for 20 minutes at a speed of 75 km/h.

(b) On the grid, complete the travel graph for Sam's journey.

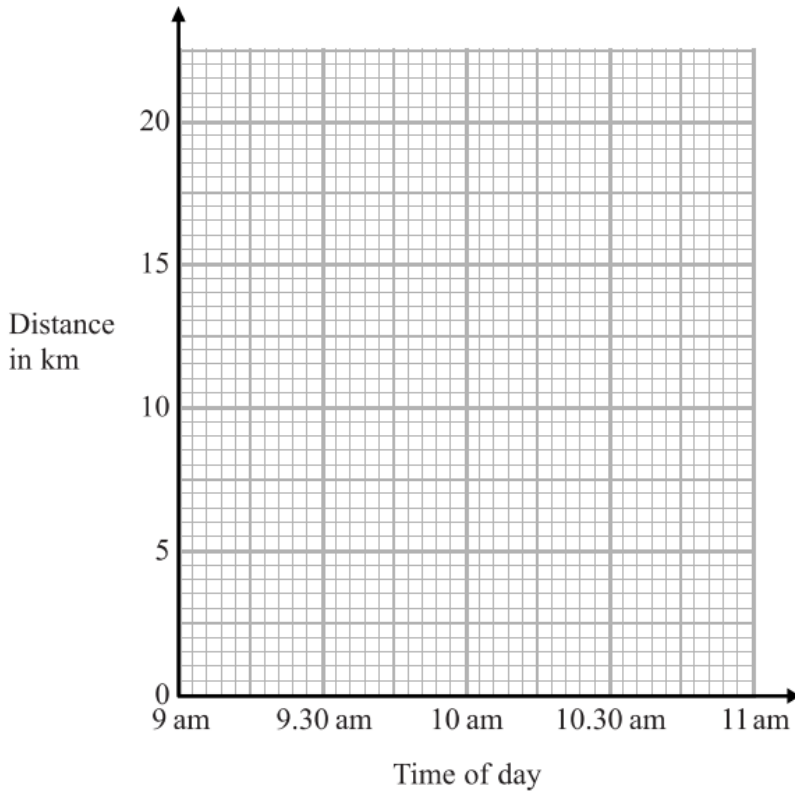
(3)

24 At 9 am, Bradley began a journey on his bicycle.

From 9 am to 9.36 am, he cycled at an average speed of 15 km/h.

From 9.36 am to 10.45 am, he cycled a further 8 km.

(a) Draw a travel graph to show Bradley's journey.



(3)

From 10.45 am to 11 am, Bradley cycled at an average speed of 18 km/h.

(b) Work out the distance Bradley cycled from 10.45 am to 11 am.

..... km

(2)