Name	Class

MATHS TEACHER HUB

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Distance-time graphs

(9 – 1) Topic booklet

Foundation

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*.

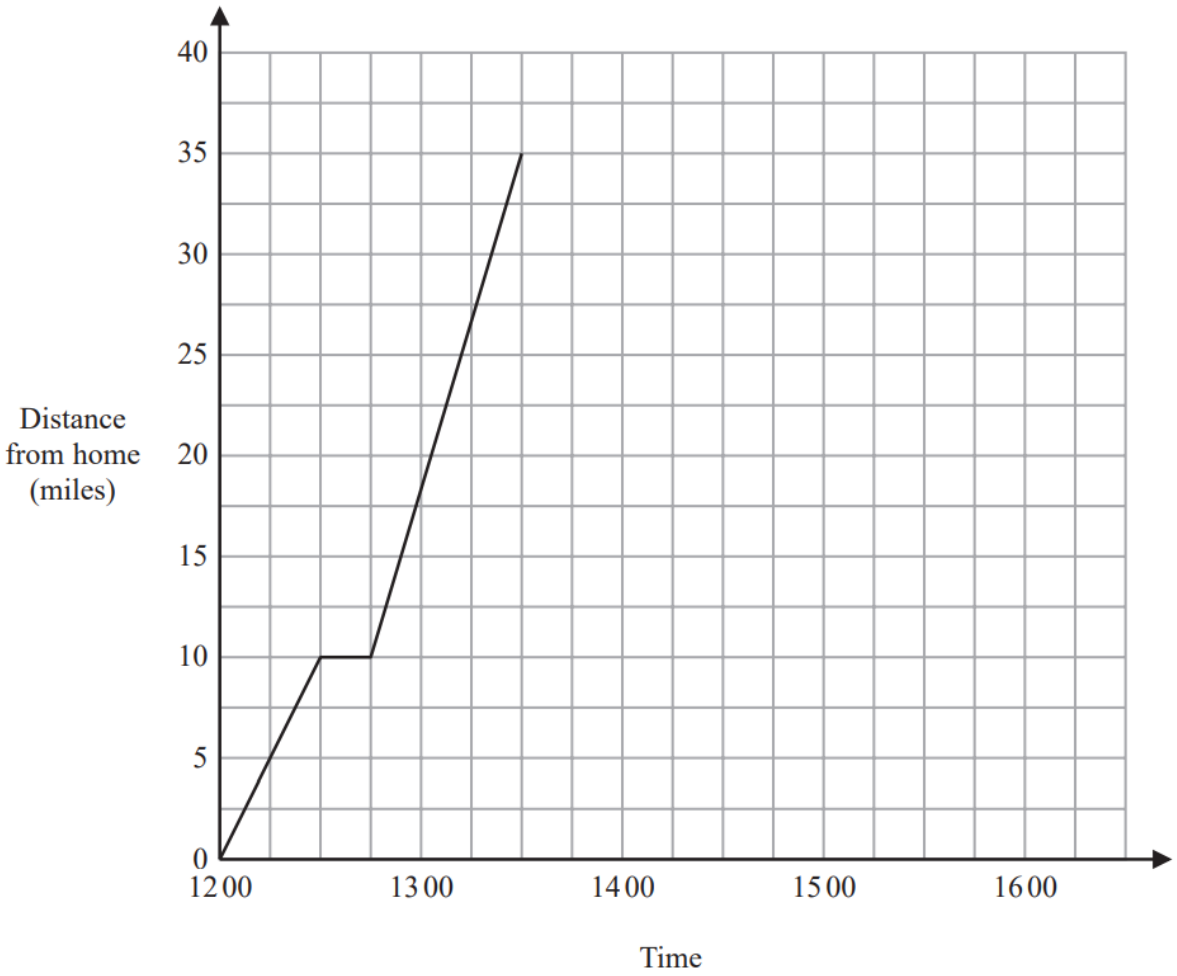
Advice

•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.

13 Rowena drove from her home to a beach.

Here is a travel graph for her journey.



Rowena stopped at a cafe on her way to the beach.

(a) (i) How many minutes did Rowena take to drive to the cafe?

..... minutes
(1)

(ii) Write down the distance from Rowena's home to the cafe.

..... miles
(1)

Rowena stayed at the beach for $1\frac{1}{2}$ hours.

She then drove home without stopping.
Rowena arrived home at 1600

(b) On the grid, complete the travel graph.

(2)

(c) Work out the average speed for the journey from the beach to Rowena's home.

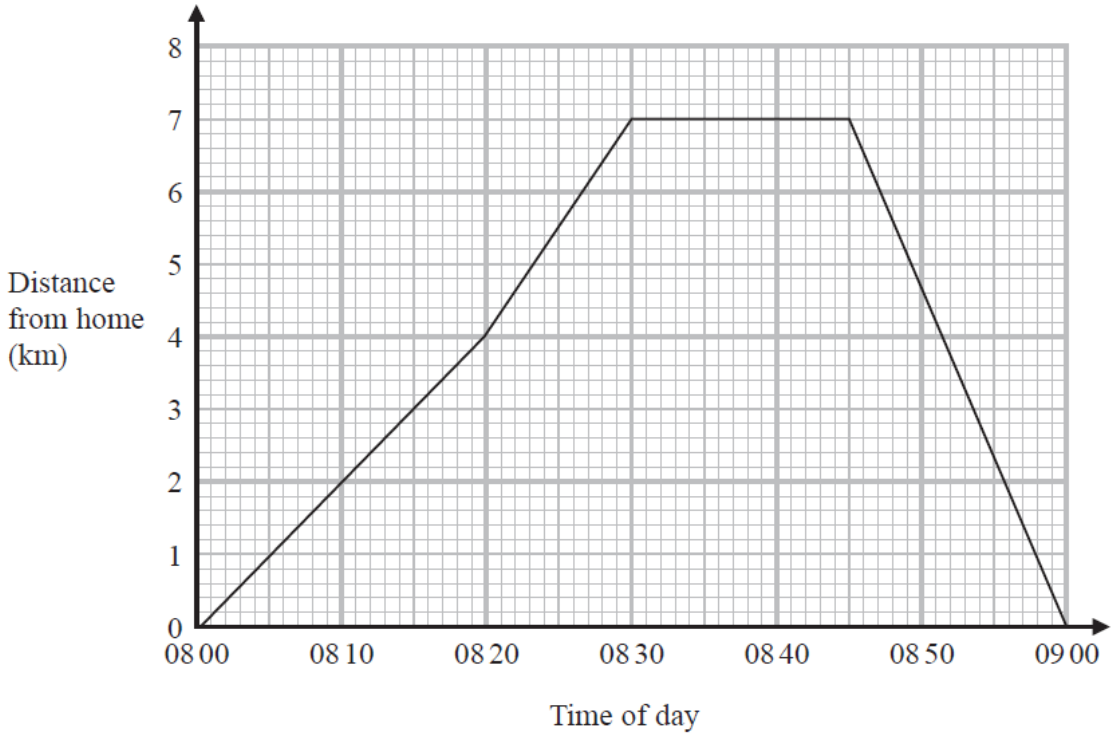
..... miles per hour

(1)

(Total for Question 13 is 5 marks)

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?

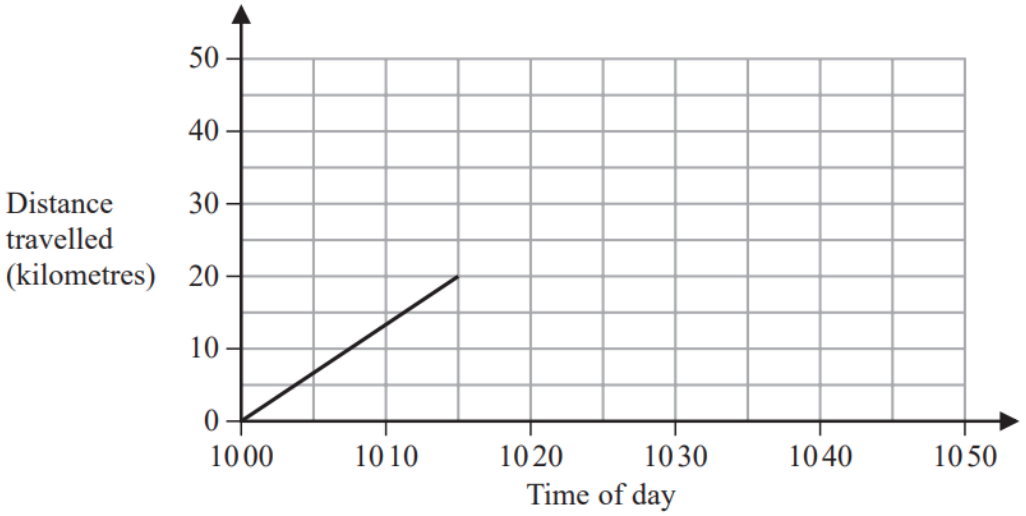
..... km
(1)

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

..... km/h
(2)

(Total for Question 19 is 4 marks)

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 10 15 Sam stops for 10 minutes and then drives for 20 minutes at a speed of 75 km/h.

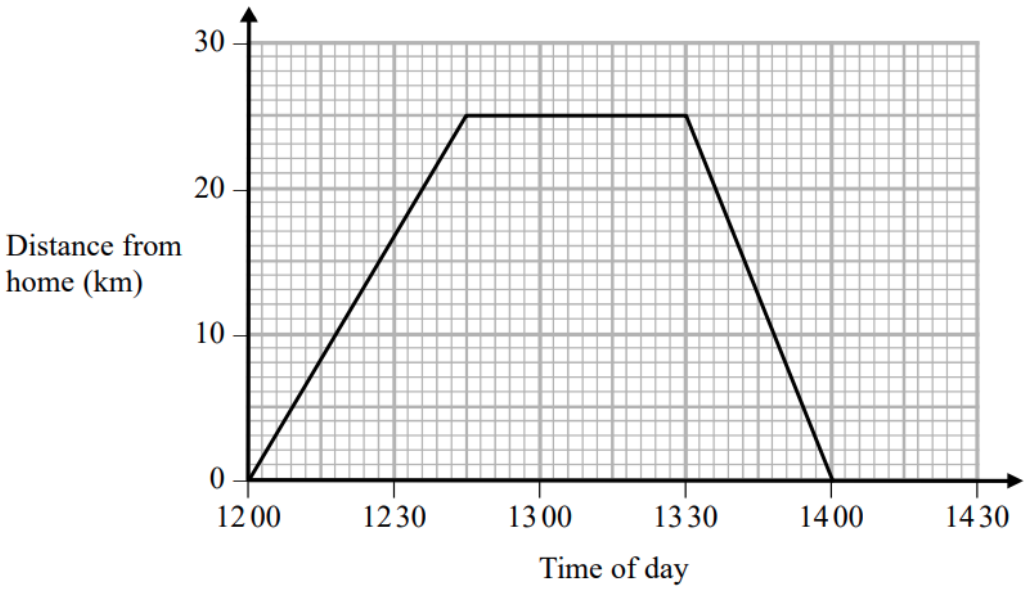
(b) On the grid, complete the travel graph for Sam's journey.

(3)

(Total for Question 23 is 5 marks)

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

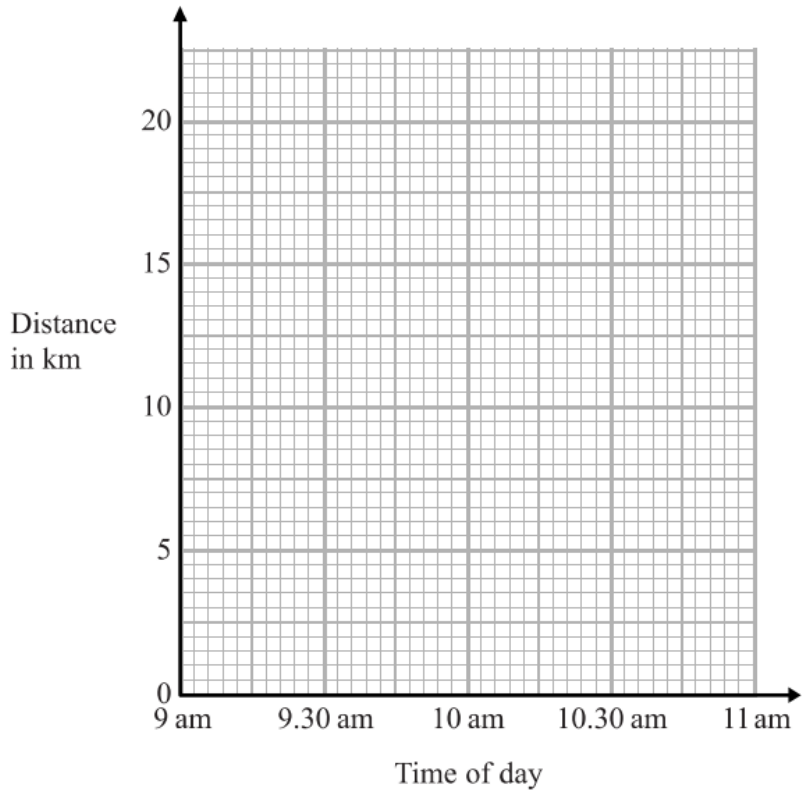
(2)

(Total for Question 16 is 3 marks)

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)

(Total for Question 24 is 5 marks)