Name	Class

MATHS TEACHER HUB

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Distance time graphs

(9 – 1) Topic booklet

Higher

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 **1H** question you are not allowed to use a calculator.
•If the question is a **2H** or a **3H** 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

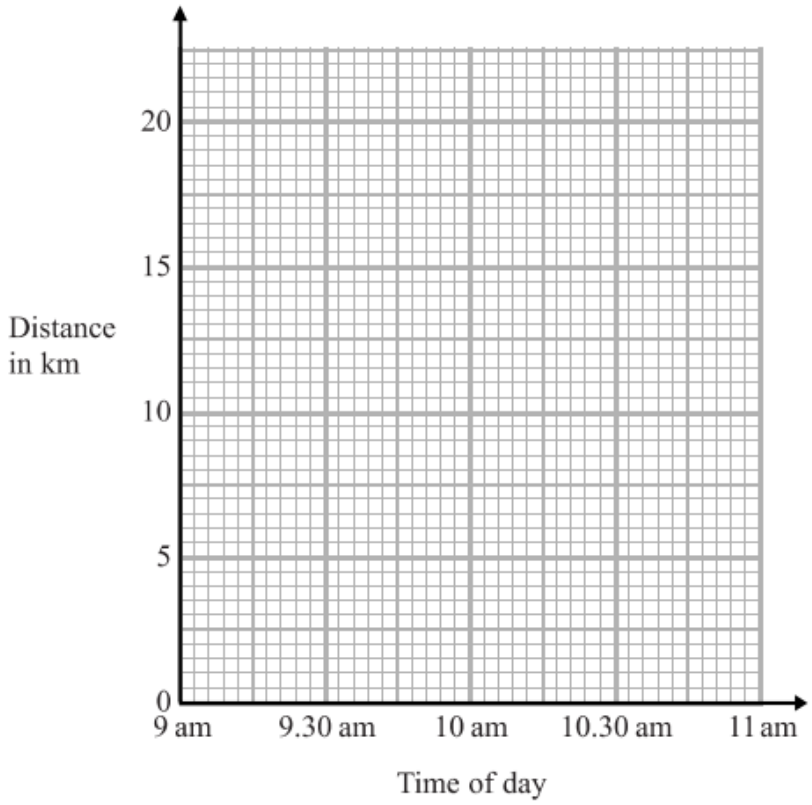
•Read each question carefully before you start to answer it.
•Keep an eye on the time.
•Try to answer every question.
•Check your answers if you have time at the end.

Answer ALL questions
Write your answers in the space provided.
You must write down all the stages in your working.

5 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.

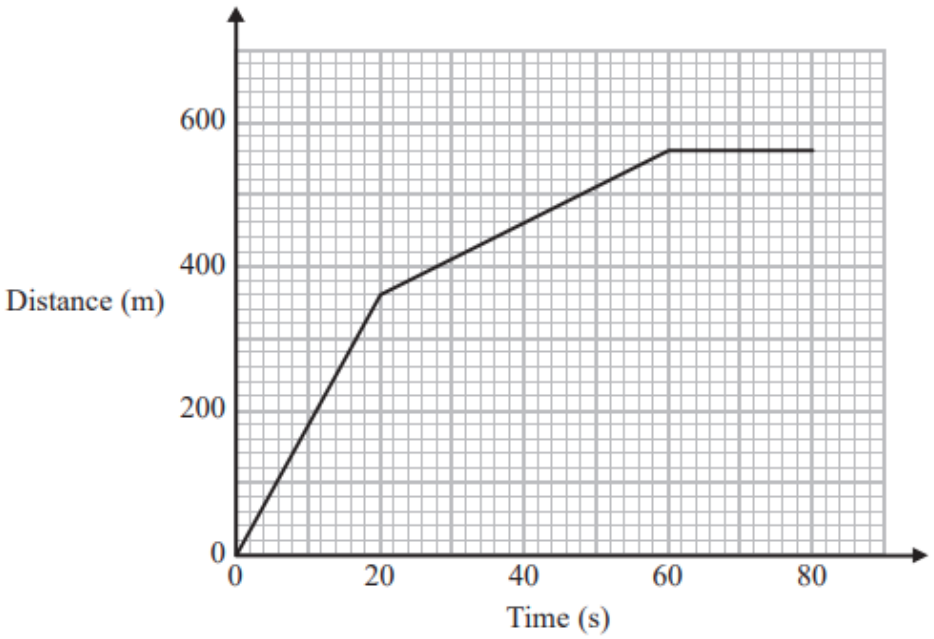
(b) Work out the distance Bradley cycled from 10.45 am to 11 am.

..... km

(2)

(Total for Question 5 is 5 marks)

10 Here is part of a distance-time graph for a car's journey.



(a) Between which two times does the car travel at its greatest speed?
Give a reason for your answer.

.....

.....

(2)

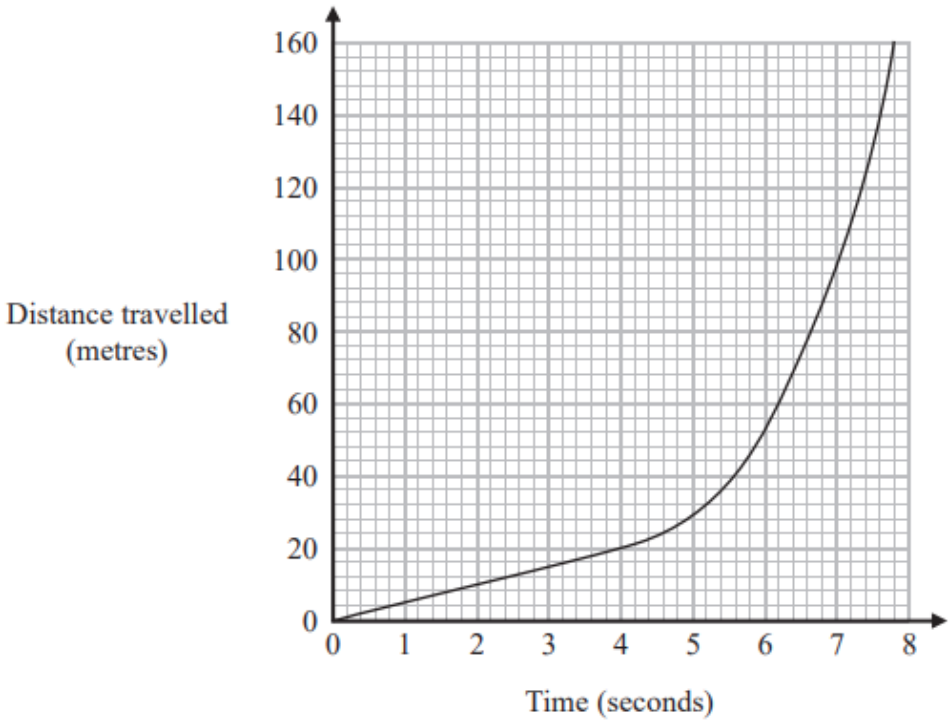
(b) Work out this greatest speed.

..... m/s

(1)

November 2017 – Paper 2H **(Total for Question 10 is 3 marks)**

14 The distance-time graph shows information about part of a car journey.



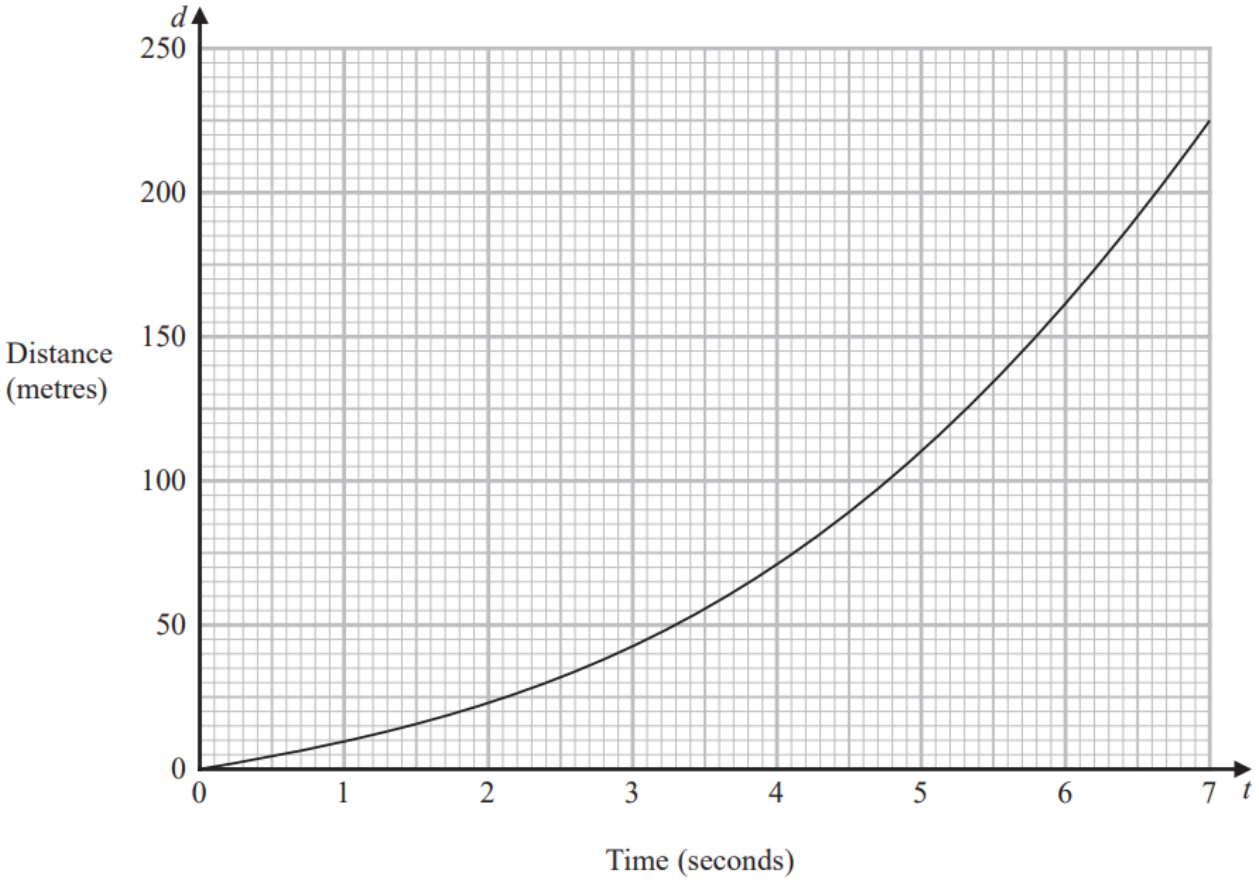
Use the graph to estimate the speed of the car at time 5 seconds.

..... m/s

(Total for Question 14 is 3 marks)

15 An object falls from rest.

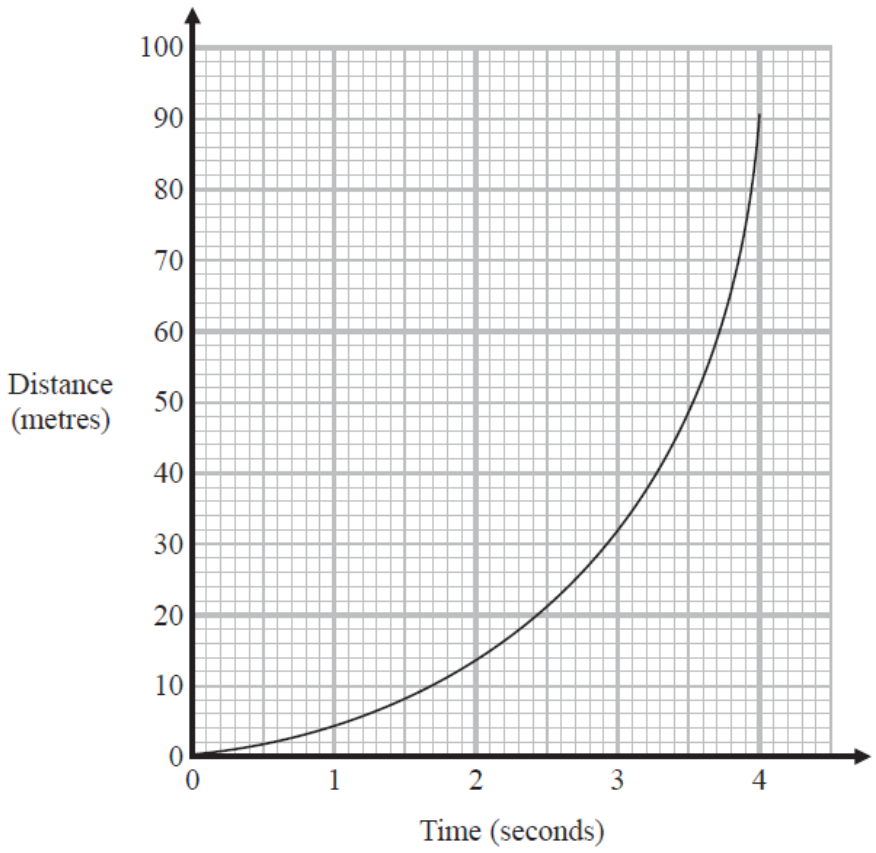
Here is the distance-time graph for the distance (d metres) fallen by the object t seconds after it starts to fall.



Work out an estimate for the gradient of the graph at $t = 3$
You must show how you get your answer.

(Total for Question 15 is 3 marks)

17 Here is a distance-time graph.



(a) Find an estimate of the gradient of the graph at time 2.5 seconds.
You must show how you get your answer.

.....

(3)

(b) What does the gradient of the graph represent?

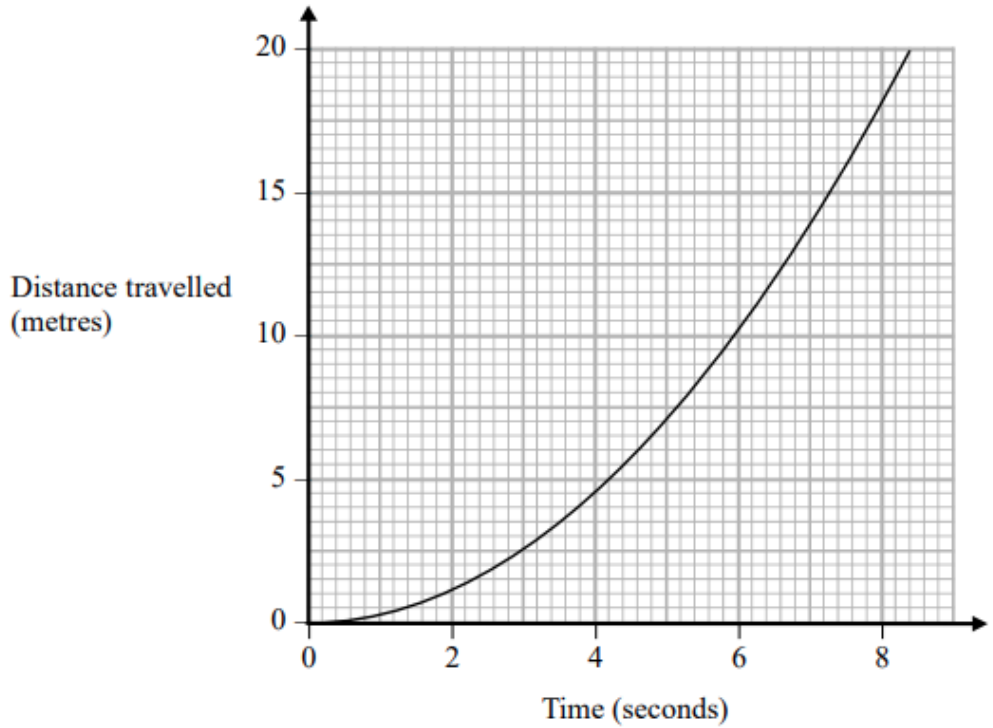
.....

.....

(1)

(Total for Question 17 is 4 marks)

19 The graph shows information about part of a cyclist's journey.



Work out an estimate of the speed, in m/s, of the cyclist at time 6 seconds.

..... m/s

November 2019 – Paper 3H **(Total for Question 19 is 3 marks)**