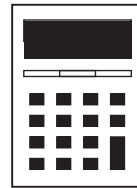


GCSE MATHEMATICS

Speed



AQA  These questions have been taken or modified from previous AQA GCSE Mathematics Papers.

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Answer all questions.
- You must answer the questions in the spaces provided.
- If your calculator does not have a π button, take the value of π to be 3.14 unless another value is given in the question.

Information

- The marks for questions are shown in brackets.
- The quality of your written communication is specifically assessed in questions that are indicated with an asterisk (*).

Advice

- Read each question carefully before you start to answer it.
 - In all calculations, show clearly how you work out your answer.
 - Use the number of marks for the question as a guide to the amount of time you need to spend.
 - Look at previous parts of the question, e.g. a), b), c) i) as there may be information there you need to answer later parts.
 - Check your answer is realistic and appropriate.
 - For calculator decimal numbers always write your full calculator display in the working out area and then, if you need to, round the answer on the answer line.
-

This booklet was curated and modified using AQA examination papers between 2010-2016, for thecalculatorguide.com, where you can find many more booklets on further topics. All questions used are reproduced for educational purposes only.

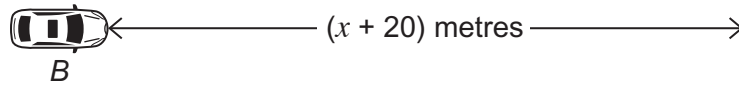
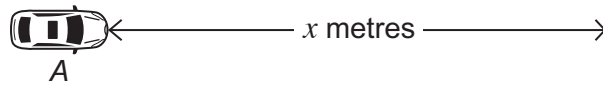


www.thecalculatorguide.com

2

Car A travels x metres at a speed of 15 m/s

Car B travels $(x + 20)$ metres at a speed of 17 m/s



Both cars travel for the same time.

Set up an equation and work out x .

[4 marks]

$x =$ _____

3 A scooter is travelling at a constant speed of 75 kilometres per hour.

3 (a) The scooter travels at this speed for 20 minutes.

How many kilometres has the scooter travelled in this time?

.....
.....

Answer km (2 marks)

3 (b) The speed limit is 50 **miles** per hour.

Is the scooter travelling faster or slower than the speed limit?

Faster

Slower

You **must** show your working.

.....
.....
.....

(2 marks)

4 Jack drives 95 miles.

He drives at an average speed of 38 mph
He starts his journey at 7 am

What time does he arrive?

[3 marks]

.....
.....
.....
.....

Answer

5 Jacques travels 240 km in 2 hours 30 minutes.

Work out his average speed.
State the units of your answer.

[3 marks]

Answer _____

6 The table shows stopping distance for a car when braking.

Speed (mph)	Stopping distance (metres)
20	12
30	23
40	36
50	53
60	73

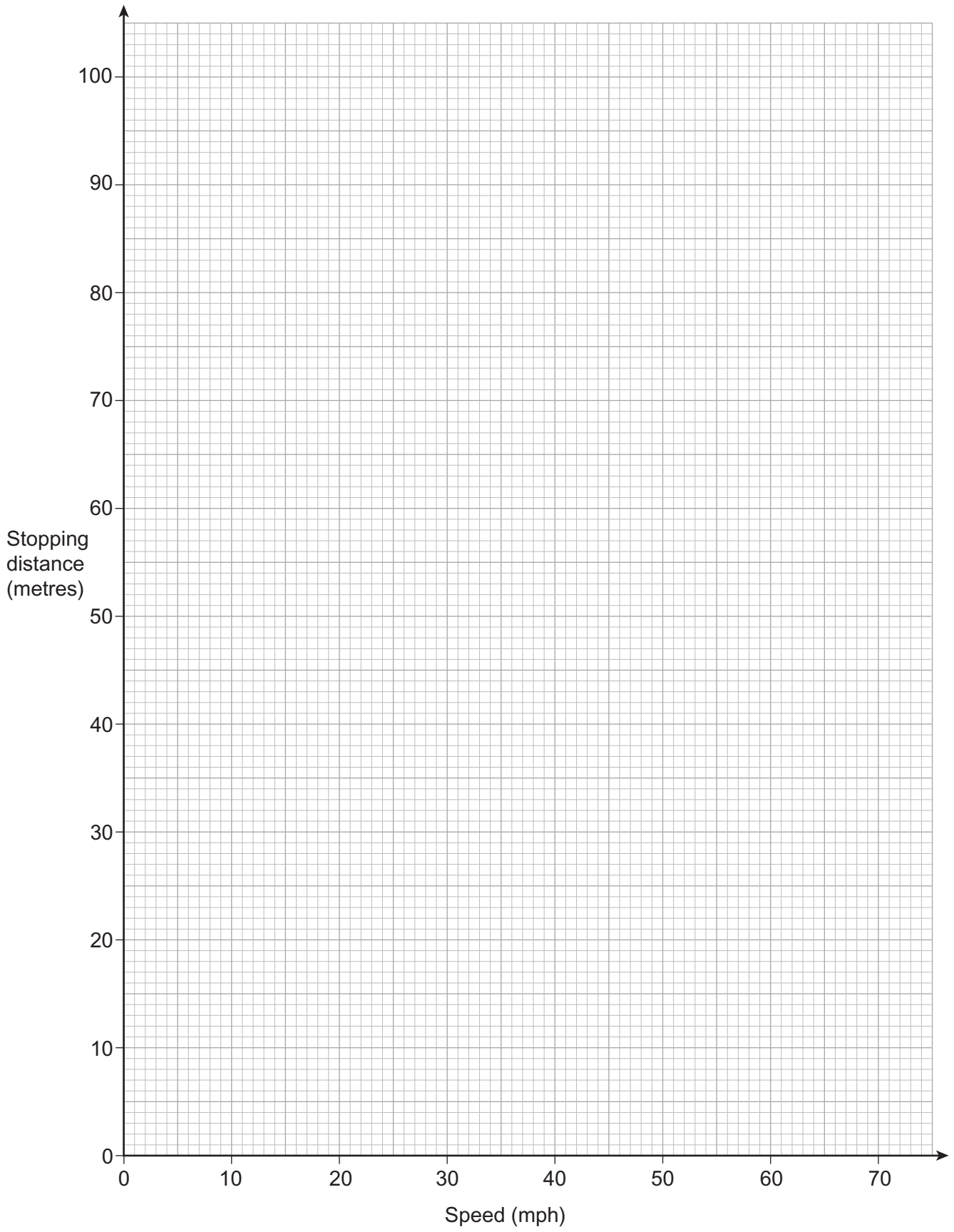
6 (a) Plot this data on the grid opposite.
Join your points with a smooth curve.

[2 marks]

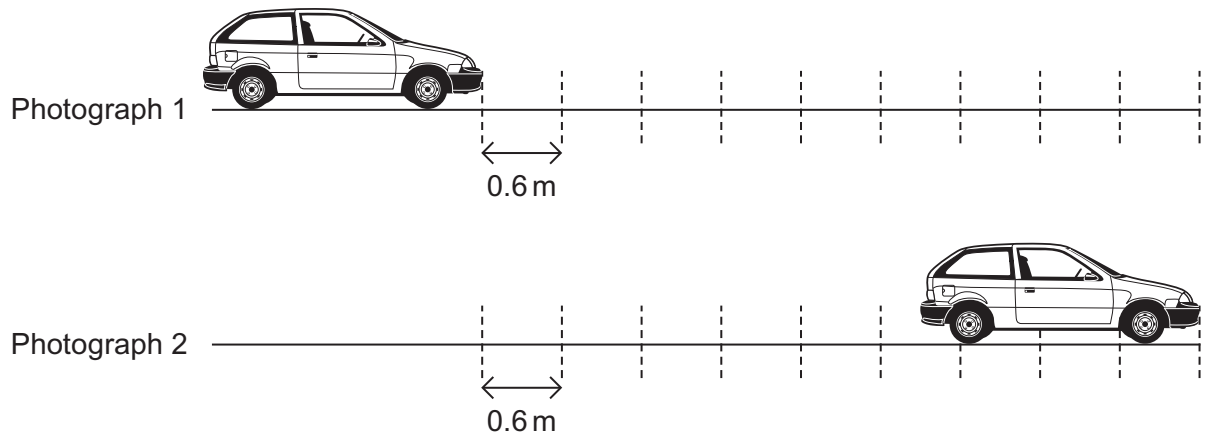
6 (b) Extend your smooth curve to estimate the stopping distance at 70 mph

[2 marks]

Answer metres



7 (a) A speed camera takes two photographs of a car.



Photograph 2 was taken 0.5 seconds after Photograph 1.
 Marks on the road are 0.6 metres apart.

Calculate the average speed of the car in m/s.

.....

.....

.....

Answer m/s (3 marks)

7 (b) You are given that

$$1 \text{ kilometre} = 1000 \text{ metres}$$

and

$$1 \text{ hour} = 3600 \text{ seconds}$$

A lorry is travelling at 13.6 m/s.
 The speed limit is 50 km/h.

Show that the lorry is travelling below the speed limit.

.....

.....

.....

(3 marks)

8

Two boats leave a port at the same time.
Boat A travels due West at an average speed of 20 km/h
Boat B travels due South at an average speed of 30 km/h

How far apart are the boats after 2.5 hours?
Give your answer to 2 significant figures.

[5 marks]



Answer _____ km