Stopping Distance Questions

Q1.

A car approaches traffic lights.
The traffic lights turn to red so the car has to stop.

Which of the following factors affects the thinking distance when the car has to stop?

(1)

☒ **A** condition of the road

☒ **B** mass of the car

☒ **C** reaction time

☒ **D** worn brakes

(Total for question = 1 mark)

Q2.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

A car is travelling at 10 m/s.

The driver sees a danger and stops the car.

The stopping distance for the car would be smaller if the car

(1)

☒ **A** had more passengers
☒ **B** had worn tyres
☒ **C** needed new brakes
☒ **D** was travelling more slowly

Figure 4 shows a speed-time graph for the driver stopping the car.

(Total for question = 1 marks)

Q3.

Figure 12 is a speed limit sign from a European motorway.

The speeds shown are in km/h (kilometres per hour).

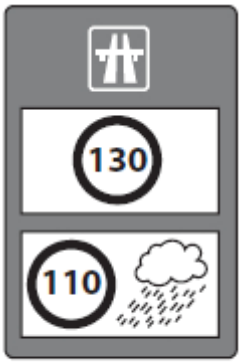


Figure 12

The sign tells drivers to drive at a slower speed in wet weather.

Explain why it is safer for drivers to drive at a slower speed in wet weather.

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(Total for question = 2 marks)

Q4.

A different car has a device that can detect rain.

This device is linked to a computer that can change the speed of the car.

In wet weather, the computer changes the speed of the car.

(i) State the change in speed that the computer should make when the road is wet.

(1)

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(ii) Give a reason why this change in speed is necessary when the road is wet.

(1)

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(Total for question = 2 marks)

Q5.

Many factors can affect the stopping distance of a car.

Some of these factors involve the driver and some of these factors involve the car or the road.

Explain how the stopping distance of a car is affected by

- factors involving the driver
- factors involving the car or the road.

You should include examples in your explanations.

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(Total for question = 6 marks)

Q6.

* A car, travelling at 20 m/s, with just the driver inside takes 70 m to stop in an emergency. The same car is then fully loaded with luggage and passengers as well as the driver.

Explain why it will take a different distance to stop in an emergency from the same speed.

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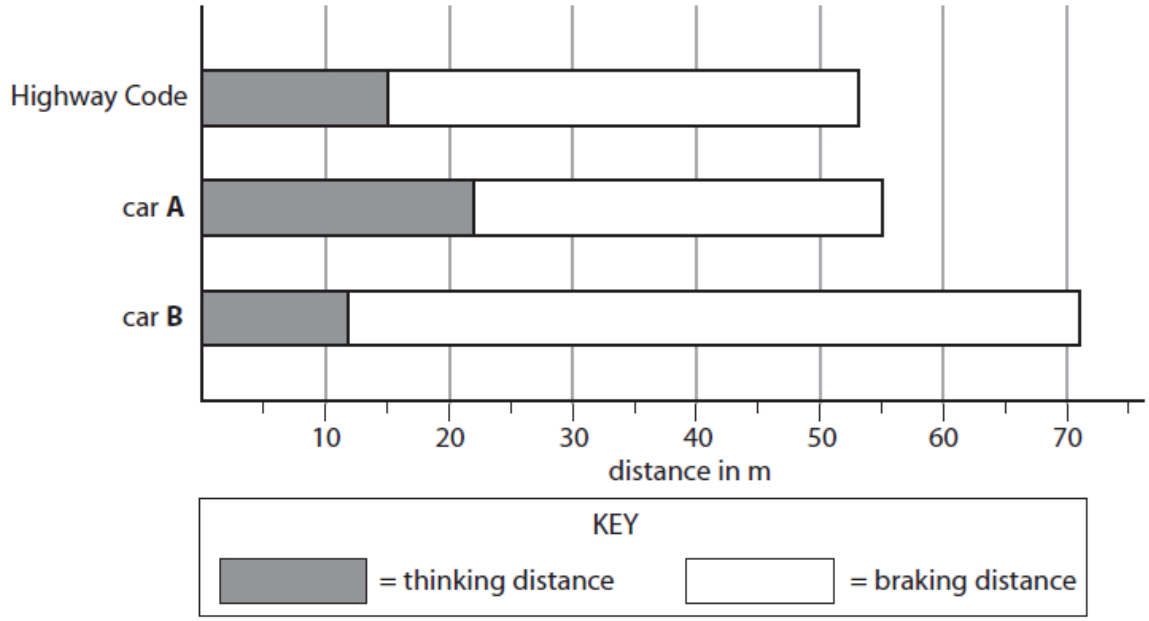
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(Total for question = 6 marks)

Q7.

* The chart shows the thinking, braking and stopping distances for an average car and driver stopping from 50 miles per hour as shown in the Highway Code.

It also shows the thinking, braking and stopping distances for drivers of cars **A** and **B**, both stopping from 50 miles per hour.



A and **B** are different cars on different roads.

Use the factors that can affect thinking and braking distances to explain the differences in stopping distances for cars **A** and **B**.

(6)

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(Total for question = 6 marks)