Work Sheet- 04

Date: 09/04/2020

1 (a) Which of these situations can increase the reaction time of a driver?

Put a cross (☒) in the box next to your answer.

(1)

☒ **A** an icy road

☒ **B** worn tyres on his car

☒ **C** stopping for a cup of coffee

☒ **D** driving for a long time without taking a break

(b) (i) A car engine produces an average driving force of 1200 N.

The car travels 8.0 m.

Calculate the work done by the force over this distance.

(2)

work done = ... J

(ii) The car has a mass of 1400 kg and travels at a velocity of 25 m/s.

Calculate the kinetic energy of the car.

(3)

kinetic energy = ... J

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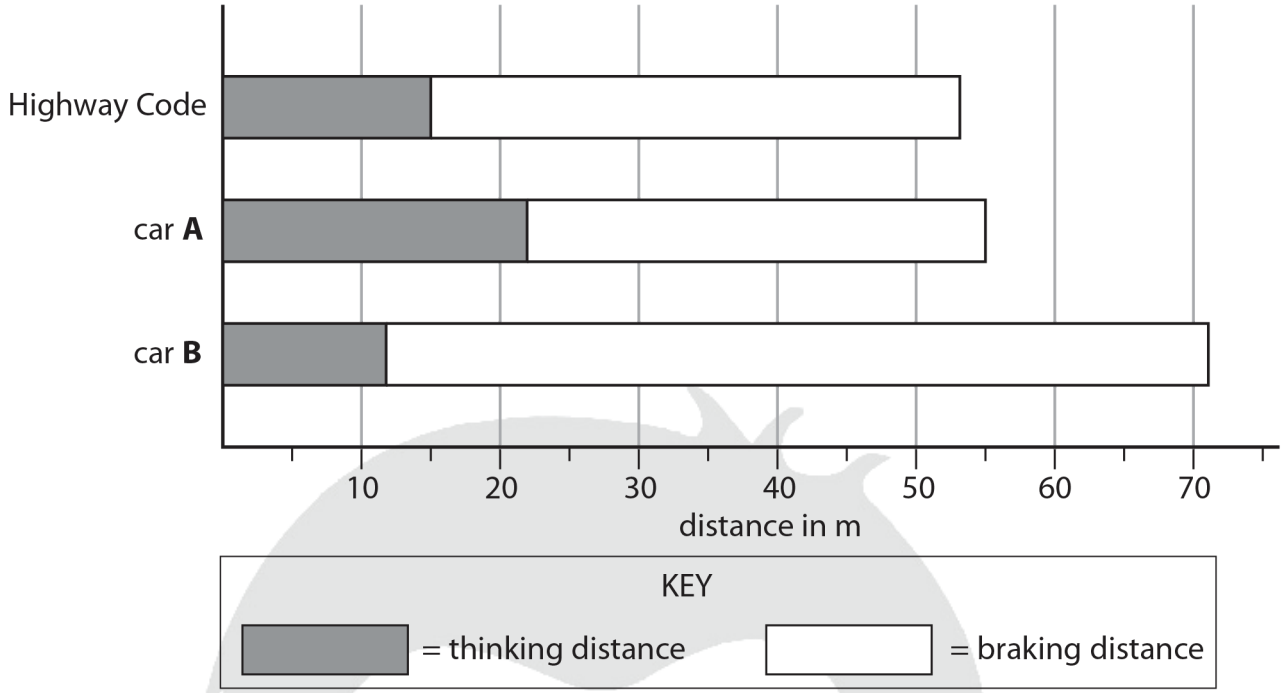
*(c) The chart shows the thinking, braking and stopping distances for an average car and driver stopping from 50 miles per hour as shown in the Highway Code.

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)