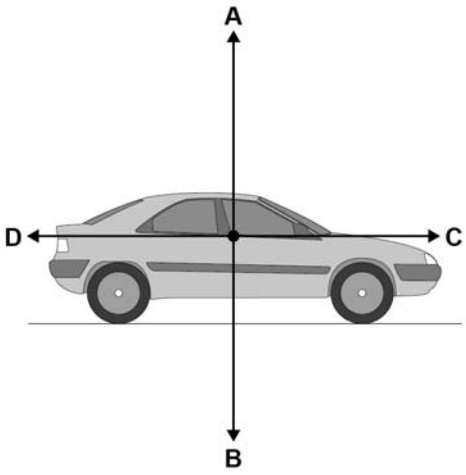
0 1 **Figure 1** shows the forces acting on a car moving at a constant speed.

Figure 1



0 1 . 1 Which force would have to increase to make the car accelerate?

[1 mark]

Tick **one** box.

A ☐

B ☐

C ☐

D ☐

0 1 . 2 The car travels a distance of 2040 metres in 2 minutes.

Use the following equation to calculate the mean speed of the car.

$$\textbf{mean speed} = \frac{\textbf{distance}}{\textbf{time}}$$

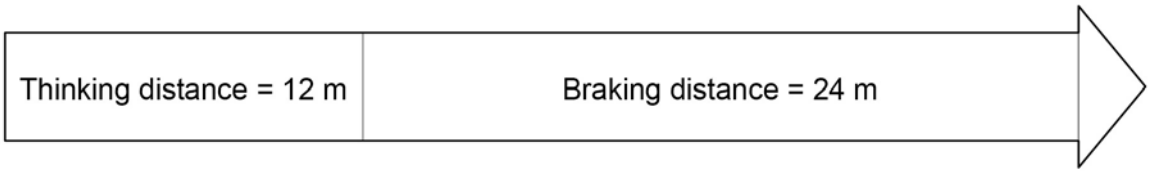
[2 marks]

Mean speed = _____ m/s

0 1 . 3 The car makes an emergency stop.

Figure 2 shows the thinking distance and braking distance of the car.

Figure 2



What is the stopping distance?

[1 mark]

0 1 . 4 The person driving the car is tired.

What effect will this have on the thinking distance and braking distance?

Tick **one** box for thinking distance.

Tick **one** box for braking distance.

[2 marks]

	decreases	increases	stays the same
thinking distance	☐	☐	☐
braking distance	☐	☐	☐

Turn over for the next question

Question 1

Question	Answers	Extra information	Mark	AO / Spec. Ref.
01.1	C		1	AO1/1 6.5.1.2
01.2	2040 / 120 17 (m/s)	 allow 17 (m/s) with no working shown for **2** marks	1 1	AO2/1 6.5.4.1.2
01.3	the thinking distance and the braking distance combined	accept 36 m	1	AO2/1 6.5.4.3.1
01.4	thinking distance increases braking distance stays the same		1 1	AO1/1 6.5.4.3.1/2
Total			**6**	