

Q1. The diagram shows the horizontal forces acting on a car of mass 1200 kg.



(a) Calculate the acceleration of the car at the instant shown in the diagram.

Write down the equation you use, and then show clearly how you work out your answer and give the unit.

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Acceleration =

(4)

(b) Explain why the car reaches a top speed even though the thrust force remains constant at 3500 N.

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(3)

(c) The diagram shows a car and a van.



The two vehicles have the same mass and identical engines.

Explain why the top speed of the car is higher than the top speed of the van.

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(4)
(Total 11 marks)

