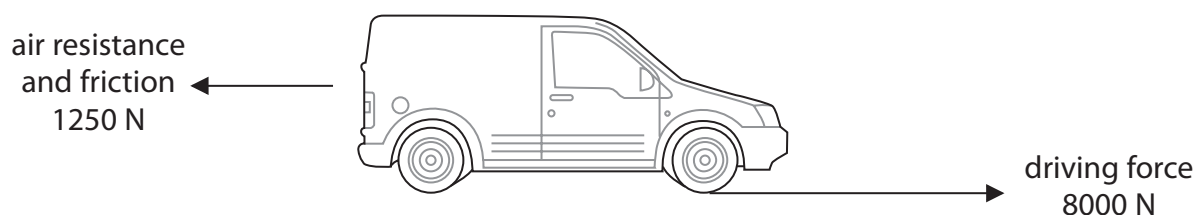


6 (a) Which of these quantities is a scalar?

(1)

- ☐ A acceleration
- ☐ B energy
- ☐ C force
- ☐ D velocity

(b) The diagram shows the horizontal forces acting on a van at a particular instant, as it accelerates.



(i) Calculate the resultant horizontal force acting on the van.

(1)

resultant force = ..... N

(ii) State the equation linking resultant force, mass and acceleration.

(1)

(iii) The mass of the van is 2500 kg.

Calculate the acceleration of the van.

Give the unit.

(3)

acceleration = ..... unit .....

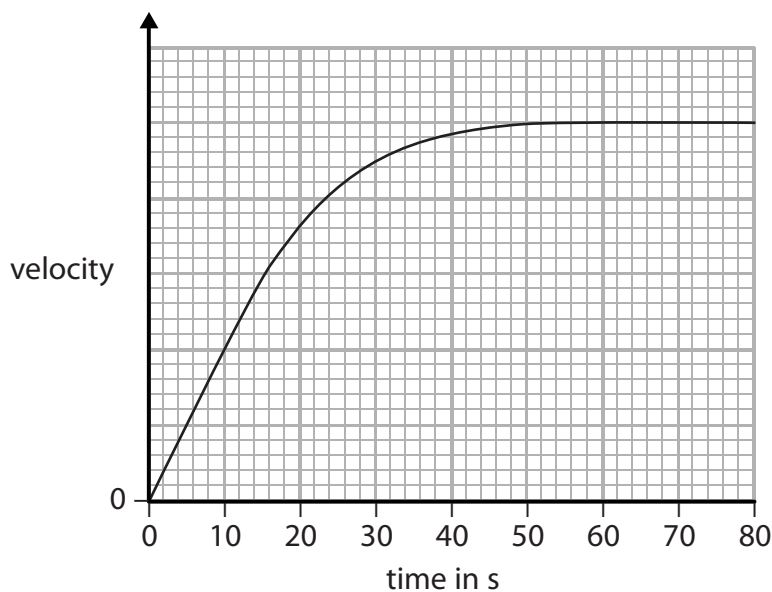
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(c) The graph shows how the velocity of a van changes with time.



Explain the shape of the graph.

Use ideas about forces in your answer.

(5)

(Total for Question 6 = 11 marks)

