12 A car accelerates with a constant driving force along a horizontal road and reaches its maximum speed.
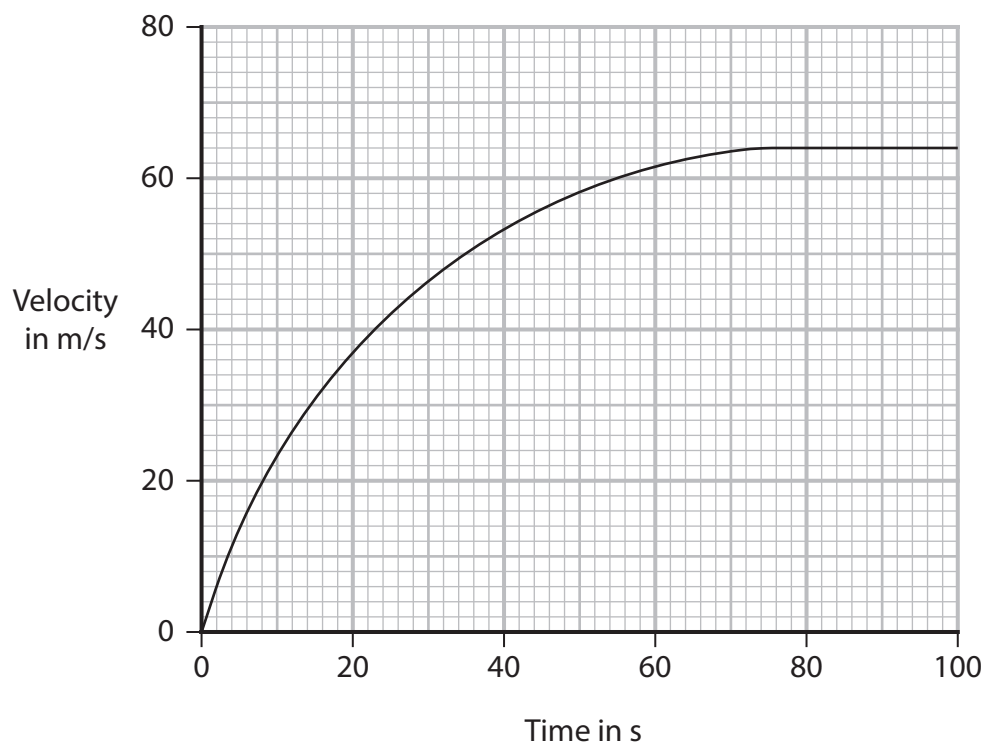
This is the velocity-time graph for the car's journey.

(a) By drawing a tangent to the curve, determine the acceleration of the car at a time of 20 s.

(4)

acceleration = ... m/s^2

(b) Determine the distance travelled by the car during the first 80 s of its journey.

(5)

distance = ... m

(c) Explain the motion of the car after 80 s.

(3)

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(Total for Question 12 = 12 marks)

TOTAL FOR PAPER = 110 MARKS