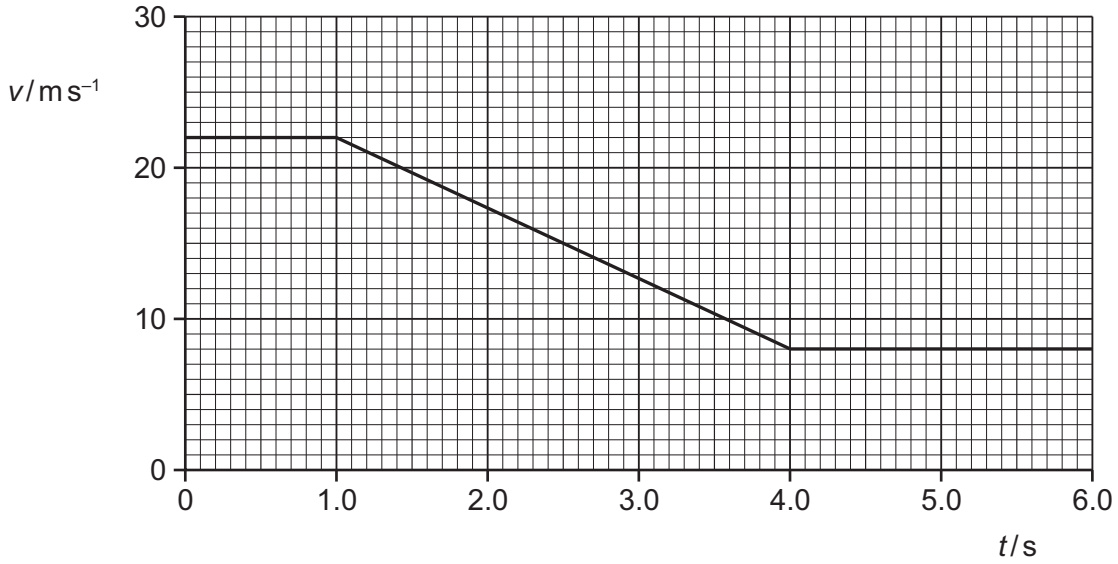
6 A car travels along a straight horizontal road. The graph shows the variation of the velocity v of the car with time t for 6.0 s of its journey.



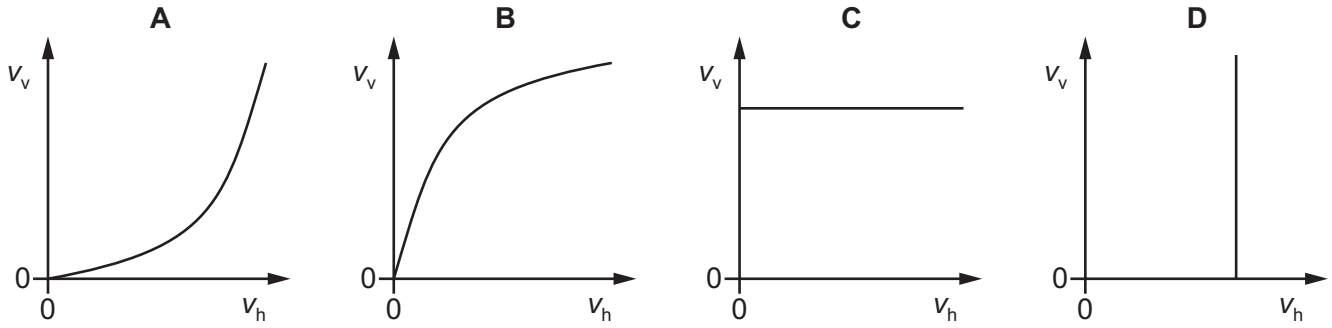
The brakes of the car are applied from t = 1.0 s to t = 4.0 s.

How far does the car travel while the brakes are applied?

A 21 m **B** 45 m **C** 67 m **D** 83 m

7 A stone is thrown horizontally from the top of a cliff and falls into the sea some time later. Air resistance is negligible.

Which graph shows how the vertical component v_v of velocity of this stone varies with its horizontal component v_h of velocity as it moves through the air?



8 A positive charge of 2.6×10^{-8} C is in a uniform electric field of field strength 300 000 V m^{-1}.

How much work must be done on the charge in order to move it a distance of 4.0 mm in the opposite direction to the direction of the field?

A 3.1×10^{-5} J

B 2.0×10^{-3} J

C 3.1×10^{-2} J

D 2.0 J