8 A ship of mass 8.4×10^7 kg is approaching a harbour with speed $16.4\,\mathrm{m\,s^{-1}}$. By using reverse thrust it can maintain a constant total stopping force of 920 000 N.

How long will it take to stop?

A 15 seconds

B 150 seconds

C 25 minutes

D 250 minutes

9 The velocity–time graphs of four different objects are shown.

Which graph represents an object falling from rest through a long distance in the Earth's atmosphere?
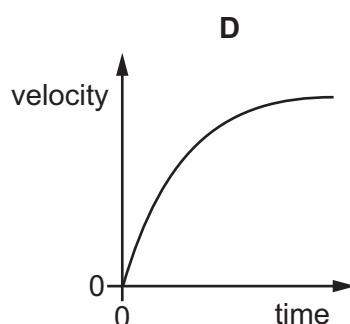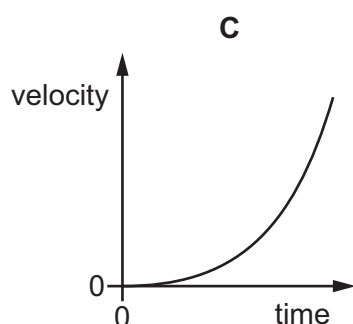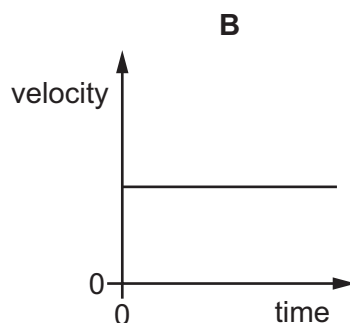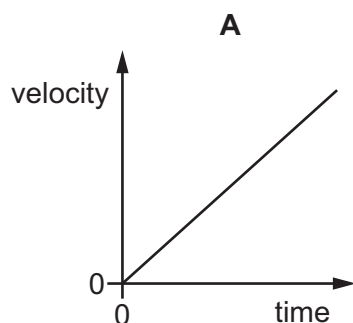
10 Which statement about collisions is correct?

A Kinetic energy is conserved in all collisions.

B Momentum is only conserved in perfectly elastic collisions.

C The relative speed of approach is equal to the relative speed of separation for perfectly elastic collisions.

D When two objects of different masses collide, they exert forces of different magnitudes on each other.