Unit 1 – Our Dynamic Universe
Section 1 – Motion – Equations of Motion

2013 Revised 1. A train accelerates uniformly from $5{\cdot}0\ m\ s^{-1}$ to $12{\cdot}0\ m\ s^{-1}$ while travelling a distance of 119 m along a straight track. The acceleration of the train is

A $0{\cdot}50\ m\ s^{-2}$

B $0{\cdot}70\ m\ s^{-2}$

C $1{\cdot}2\ m\ s^{-2}$

D $7{\cdot}0\ m\ s^{-2}$

E $14\ m\ s^{-2}$.

2014 2. A boat is moving at a speed of $6{\cdot}0\ m\ s^{-1}$. The boat now accelerates at $3{\cdot}0\ m\ s^{-2}$ until it reaches a speed of $12\ m\ s^{-1}$.

The distance travelled by the boat during this acceleration is

A 6·0 m

B 18 m

C 30 m

D 36 m

E 54 m.

2015 2. A car is travelling at $12\ m\ s^{-1}$ along a straight road. The car now accelerates uniformly at $-1{\cdot}5\ m\ s^{-2}$ for 6·0 s.

The distance travelled during this time is

A 18 m

B 45 m

C 68 m

D 72 m

E 99 m.

2016 1. A car accelerates uniformly from rest. The car travels a distance of 60 m in 6·0 s. The acceleration of the car is

A $0{\cdot}83\ m\ s^{-2}$

B $3{\cdot}3\ m\ s^{-2}$

C $5{\cdot}0\ m\ s^{-2}$

D $10\ m\ s^{-2}$

E $20\ m\ s^{-2}$.

2018 1. A car is moving at a speed of $2{\cdot}0\ m\ s^{-1}$.

The car now accelerates at $4{\cdot}0\ m\ s^{-2}$ until it reaches a speed of $14\ m\ s^{-1}$.

The distance travelled by the car during this acceleration is

A 1·5 m

B 18 m

C 24 m

D 25 m

E 48 m.