

**Mathematics Questions by Topics**

Motion and Force

Question 18

Source: K14SM2Q18

**Question 18**

A car is moving with constant acceleration has its speed reduced from  $3V \text{ ms}^{-1}$  to  $V \text{ ms}^{-1}$ , over a distance of  $D$  m when the driver applies the brakes. The car travels a further distance of  $S$  m until it comes to rest. The time  $T$  seconds represents the time when the driver applies the brakes until the car comes to rest. Then

**A.**  $D = 8S$  and  $T = \frac{2(D+S)}{3V}$

**B.**  $D = 4S$  and  $T = \frac{2(D+S)}{3V}$

**C.**  $D = 8S$  and  $T = \frac{S}{V}$

**D.**  $D = 4S$  and  $T = \frac{S}{V}$

**E.**  $D = 2S$  and  $T = \frac{D}{2V}$