

A railway locomotive pulling a train delivers a constant power of $2.0 \times 10^6 \text{ W}$ to the wheels. The resistive forces are constant at all speeds. The maximum speed that the train can achieve on a level track is 40 m s^{-1} .

What is the resultant force accelerating the train when it is travelling at 10 m s^{-1} ?

- A** $5.0 \times 10^4 \text{ N}$ **B** $1.5 \times 10^5 \text{ N}$ **C** $2.0 \times 10^5 \text{ N}$ **D** $2.5 \times 10^5 \text{ N}$

10 The top end of a spring is attached to a fixed point and a mass of 4.2 kg is attached to its lower