7 A train, initially at rest at a station, has a uniform acceleration of $0.20\,m\,s^{-2}$ until it reaches a speed of $20\,m\,s^{-1}$. It travels for a time at this constant speed and then has a uniform deceleration of $0.40\,m\,s^{-2}$ until it comes to rest at the next station. The distance between the two stations is 3000 m.

What is the time taken by the train to travel between the two stations?

A 75 s **B** 150 s **C** 230 s **D** 300 s