

- 5** A goods train passes through a station at a constant speed of 10 m s^{-1} at time $t = 0$. An express train is at rest at the station. The express train leaves the station with a uniform acceleration of 0.5 m s^{-2} just as the goods train goes past. Both trains move in the same direction on straight, parallel tracks.

At which time t does the express train overtake the goods train?

A 6 s

B 10 s

C 20 s

D 40 s