

7 A goods train passes through a station at a steady speed of  $10\text{ ms}^{-1}$  at time  $t = 0$ . An express train is at rest at the station. The express train leaves the station with a uniform acceleration of  $0.5\text{ ms}^{-2}$  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** 6s

**B** 10s

**C** 20s

**D** 40s