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- 2014 10** Three runners compete in a race. The probabilities that the three runners finish the race in under 10 seconds are $\frac{1}{4}$, $\frac{1}{6}$ and $\frac{2}{5}$ respectively. **1**

What is the probability that at least one of the three runners will finish the race in under 10 seconds?

- (A) $\frac{1}{60}$ (B) $\frac{37}{60}$ (C) $\frac{3}{8}$ (D) $\frac{5}{8}$

D

P(at least one is under 10 seconds)

$$= 1 - P(\text{no runner under 10 sec})$$

$$= 1 - \left[\frac{3}{4} \times \frac{5}{6} \times \frac{3}{5} \right]$$

$$= \frac{5}{8}$$

State Mean:
0.59

* These solutions have been provided by [projectmaths](#) and are not supplied or endorsed by BOSTES.