

Exercise 7-2

Determine speed of slower runner:

$$v_{\text{slow}} = \frac{100 \text{ m}}{13.0 \text{ s}} = 7.692 \text{ m/s}$$

Time for faster runner to run 100 m is 10.0 s.

In this time, the slower runner has run

$$7.692 \frac{\text{m}}{\text{s}} \times 10.0 \text{ s} = 76.9 \text{ m}$$

∴ distance between runners is:

$$\begin{aligned} & (100 - 76.9) \text{ m} \\ & = 23 \text{ m} \end{aligned}$$