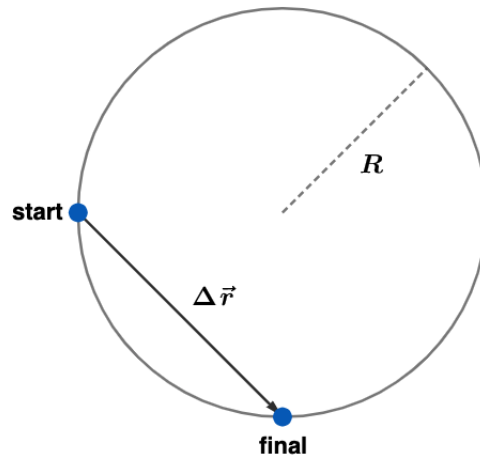


2023 F=ma Exam: Problem 1

Kevin S. Huang



The average speed is given by

$$\bar{v} = \frac{d}{\Delta t} = \frac{R\Delta\theta}{\Delta t} = \frac{(2\text{ m})(2.25 \cdot 2\pi)}{10\text{ s}} = \frac{9\pi}{10} \text{ m/s}$$

The average velocity is given by

$$\vec{v}_{\text{ave}} = \frac{\Delta \vec{r}}{\Delta t}$$

so it points in the same direction as the displacement $\Delta \vec{r}$. Thus, the answer is E.