flipping physics

Flipping Physics Lecture Notes: Introduction to Velocity and Speed

Velocity: Symbol is lowercase v. Equation is: $\boxed{v = \dfrac{\Delta x}{\Delta t} = \dfrac{x_f - x_i}{t_f - t_i}}$

Velocity has both Magnitude and Direction.

Example problem: Mr.p takes his dog Buster for a walk. If they walk for 27 minutes and travel 1.89 km East, what is their average velocity in meters per second?

Knowns: Δt = 27 minutes, Δx = 1.89 km East, v_{avg} = ?

$$v = \frac{\Delta x}{\Delta t} = \frac{1.89\,km}{27\,min} \times \frac{1000\,m}{1km} \times \frac{1\,min}{60\sec} = 1.1\overline{6} \approx \boxed{1.2\,\frac{m}{s}\,East}$$

Speed: $\boxed{speed = \dfrac{distance}{time}}$

Speed has Magnitude only with no direction

Velocity ≠ Speed just like Displacement ≠ Distance