Ch 2
Sec 2.1A

HW:RC: Sec 2.1 Written: Reinf Wks Sec 2.1

obj: Explain the difference between speed and velocity.

Speed

- The rate of change in the Position of an object. (Motion)
- Compares distance w/ time.
- Ratio btw the distance an object travels to the time it takes to cover that distance.

$$s = \frac{d}{t} \left(\frac{m}{s}\right)$$ unit for speed

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2 Types of Speed

1) Average Speed
   - Used to explain a trip
   - Ratio of the total distance of the trip to the total time to make the trip.

$$\bar{s} = \frac{\text{Total Distance}}{\text{Total Time}}$$

2) Instantaneous Speed
   - Speed the object travels @ an instant in time. (Clock Reading)

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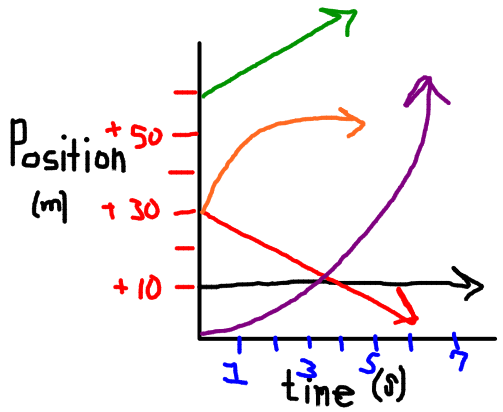
Graphing Speed

- Position-Time Graph (Line Graph)



No Motion

Motion (+) Direction.

Motion (-) Direction.

Speeding Up

Slowing Down.

- Speed is the slope of the Line.

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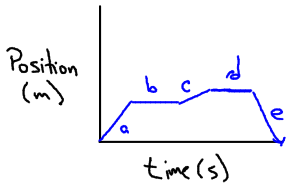
* Total Trip.



Velocity

- The Speed of an object w/ direction.
- Ratio btw displacement and time.

$v = \frac{\Delta d}{\Delta t}$ Δd = displacement
Δt = time interval

$\overline{v} = \frac{\text{Total Displacement}}{\text{Total Time}}$

* Velocity is either (+) or (-)

+10 m/s or -5.0 m/s

10 m/s or 5.0 m/s

Speed.

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