

Speed, Velocity and Acceleration Notes

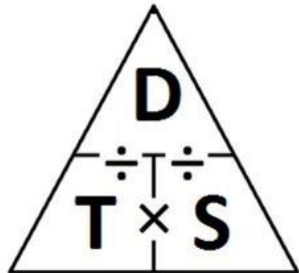
Speed:

- ⊙ The distance an object travels in a certain amount of time.
 - > Average speed – Total distance divided by total time
 - > Constant speed - Speed that does not change

Formula for Calculating Speed

Speed equals distance divided by time

$$S = \frac{D}{T}$$



Use your handy dandy triangle!

Practice for calculating speed:

A football field is about 100 meters long. If it takes a person 20 seconds to run its length, how fast was the football player running?

$$S = \frac{D}{T} = \frac{100\text{m}}{20\text{sec}} = 5\text{m/s}$$

Velocity – uses the same formula for speed, $V=d/t$

- ⊙ An object's speed and direction at a given time
 - > The wind is blowing 65 km/hr from the North

Acceleration

- ⊙ A change in the direction **or** speed (velocity) of an object over time:
 - > A **change** in speed
 - Starting
 - Stopping
 - Speeding up (positive acceleration)
 - Slowing down (negative acceleration)
 - > A **change** in direction
- ⊙ Acceleration is caused by unbalanced forces.