Phy1014

Weeks 1 to 4 formulas

# Percent Uncertainty

$$\% uncertainty= \frac{uncertainty in measurement}{measurement}x 100$$

# Motion with constant speed

S is speed

T is time

D is distance

$$D=S x T$$

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

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

# Motion with constant acceleration

$a$ is acceleration

t is time

$v\_{i}$ is initial velocity

$v\_{f}$ is final velocity

Acceleration, initial velocity, and final velocity are vector quantities!!!

Make sure you draw a picture to indicate their direction relative to chosen direction of the x axis.

$$a= \frac{v\_{f}-v\_{i}}{t}$$

$$t= \frac{v\_{f}-v\_{i}}{a}$$

$$v\_{f}=at+v\_{i}$$

$$v\_{i}= v\_{f}-at$$

# Second Newton’s Law

$F\_{net}$ is net force which can consist of several forces with different directions.

$m$ is mass

$a$ is acceleration

Force and acceleration are vector quantities.

Make sure you draw a picture to indicate their direction relative to chosen direction of the x axis.

$$F\_{net}=ma$$

$$a= \frac{F\_{net}}{m}$$

$$m= \frac{F\_{net}}{a}$$