Acceleration

$$a = \frac{v - v_0}{t}$$

a = acceleration $\left(\frac{m}{s^2} + dir\right)$
v_0 = initial vel. $\left(\frac{m}{s} + dir\right)$
v = final vel. $\left(\frac{m}{s} + dir\right)$
t = time (s)

If you know	you can find	using	units
v, v_0, t	a	$a = \frac{v - v_0}{t}$	$\frac{m}{s^2} + dir$
a, v_0, t	v	$v = v_0 + at$	$\frac{m}{s} + dir$
a, v, t	v_0	$v_0 = v - at$	$\frac{m}{s} + dir$
a, v_0, v	t	$t = \frac{v - v_0}{a}$	s

Newton's 2nd Law:

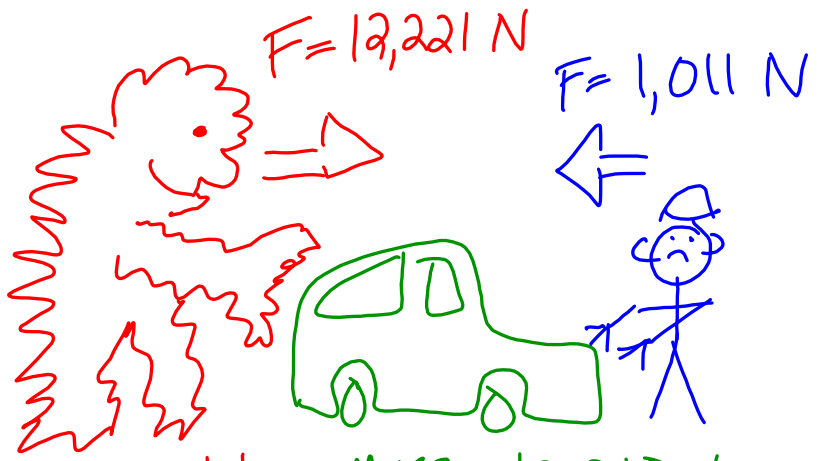
$F = ma$

F = Net, or overall force (N + dir)

m = mass (kg)

a = accel. ($\frac{m}{s^2}$ + dir)

If you know	You can find	Using	Units
m, a	F	$F=ma$	N + dir
F, m	a	$a=\frac{F}{m}$	$\frac{m}{s^2}$ + dir
F, a	m	$m=\frac{F}{a}$	kg



Five steps

1. $F_S = 12{,}221\ N$, $F_B = 1{,}011\ N$, $m = 12{,}210\ kg$

$F_{Net} = 11{,}210\ N$ (right)

2. a

3. $a = \frac{F}{m}$

4. $a = \frac{11{,}210}{12{,}210} = 0.918$

5. $a = 0.918\ \frac{m}{s^2}$ right