

$$V = \underline{A}t$$
$$d = \underline{A}t^2$$

$$V = \underline{a}t + V_0$$
$$\Delta x = \underline{\frac{1}{2}at^2} + V_0t$$

For Part f of your Kinematics Lab
Conclusion

Average Velocity: \bar{V} Bar = Mean Value

$$\bar{V} = \frac{\text{displacement}}{\text{time}} = \frac{X_f - X_0}{t}$$

distance: miles, km, cm
sec, min, hr, weeks

Average Acceleration: \bar{a}

$$\bar{a} = \frac{V_f - V_0}{t}$$

Speed: $\frac{\text{mils}}{\text{hr}}$, $\frac{\text{m}}{\text{s}}$, $\frac{\text{cm}}{\text{min}}$
time: sec, hr, min

$$\frac{\frac{\text{Distance}}{\text{Time}}}{\frac{\text{Time}}{1}} = \frac{\text{Distance}}{\text{Time}^2}$$

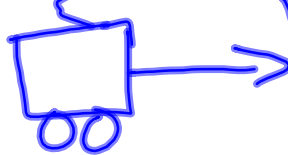
Example:

A Car traveling at $60 \frac{\text{mils}}{\text{hr}}$ Stops in 10 seconds:

Acceleration is: $-6 \frac{\text{mils}}{\text{hr} \cdot \text{sec}}$

Vectors and signs for a & v

$\vec{a} = -2 \text{ m/s}^2 = -2 \text{ m/s}^2$
 $\vec{v} = 10 \text{ m/s} \rightarrow +$



Acceleration tells us how much to change the velocity each second

Time	acceleration	velocity,
0	-2 m/s^2	10 m/s
1	-2 m/s^2	8 m/s
2	-2 m/s^2	6 m/s
...		
5s	-2 m/s^2	0 m/s
6s	-2 m/s^2	-2 m/s
7s	-2 m/s^2	-4 m/s

