Stopping Distance

$$Ft = mv_f - mv_i$$

$$\Delta x = (v_i + v_f)\Delta t$$

(old equation)

Example

- A 2000 kg car slow uniformly from an initial velocity of 16 m/s by a 3300 N braking force.
  A. What is the car's speed after 1.5 seconds?
  B. How far does it go?
  C. How long does it take to come to complete stop?

A 2000 kg car slow uniformly from an initial velocity of 16 m/s by a 3300 N braking force.

A. What is the car's speed after 1.5 seconds?

- How are we going to do this? $Ft = mv_f - mv_i$

A 2000 kg car slow uniformly from an initial velocity of 16 m/s by a 3300 N braking force.

A. How far does it go?

- How are we going to do this? $\Delta x = \frac{1}{2}(v_i + v_f)$t
  - HINT: Its an old equation!

A 2000 kg car slow uniformly from an initial velocity of 16 m/s by a 3300 N braking force.

A. How long does it take to come to complete stop?

- How are we going to do this? $Ft = mv_f - mv_i$