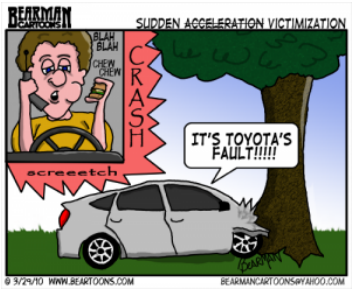
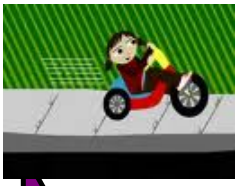
Calculating Acceleration



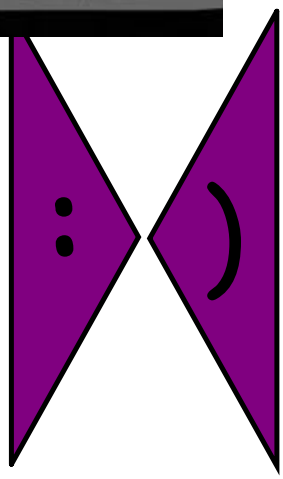


a = acceleration

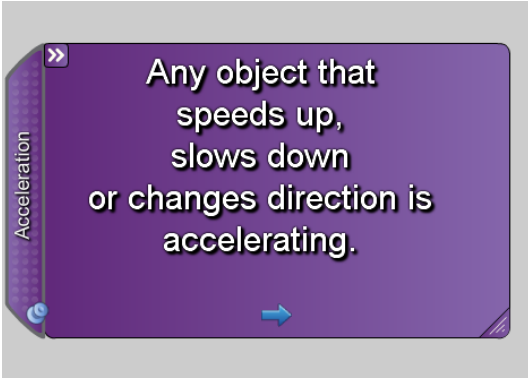
v_2 = second velocity

v_1 = first velocity

t = time



$$\vec{a} = \frac{\vec{v}_2 - \vec{v}_1}{t}$$



A car travelling at 120 km/hr comes to a stop in 2.4 s. What is the acceleration?

Pull

Pull

2. A bicyclist starts moving at 5.0 m/s and slows down to 4.0 m/s in 2.0 s. What is her acceleration?

3. A bullet accelerates from a rifle barrel. If it starts from rest, and accelerates to 740 m/s in 0.010 s, what was the acceleration?

4. How long does it take a car to accelerate from zero to 120 km/hr at 2.6 m/s^2 ?

5. How long will it take you to stop if you are moving at 52 km/hr and acceleratin at - 5.5 m/s^2?

6. A ball is thrown straight up and has an acceleration of -9.8 m/s^2
How fast was it thrown if it climbs for 2.2s before stopping?

7. A rocket increases its velocity from 1100 m/s to 110 000m/s with an acceleration of 30.0 m/s^2. How long did this acceleration last?

8. A car accelerates at - 2.5 m/s^2 for 1.2 s. If the car was originally going 12 m/s, how fast is it going now?