**Data**

Mass= 143 g

Diameter=7.5 cm

Video is shot at 30 000 fps (frames per second )

**Units**

1 mph = 0.44 m/s

**Problem**

What is the average acceleration experienced by the baseball?

**Data to get from video**

1. Scale
2. Time of collision
3. Displacement of ball after it leaves the metal block and the time it takes to travel it

**Calculations:** Find each of the following

1. Velocity of ball in m/s before it hits the wall
2. Velocity of ball in m/s after it leaves the wall
3. Acceleration of the ball

**Discussion**

Does this acceleration seem reasonable? Explain