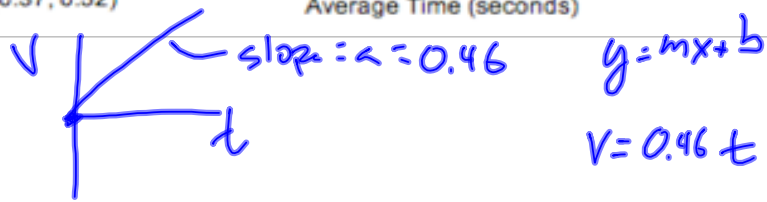
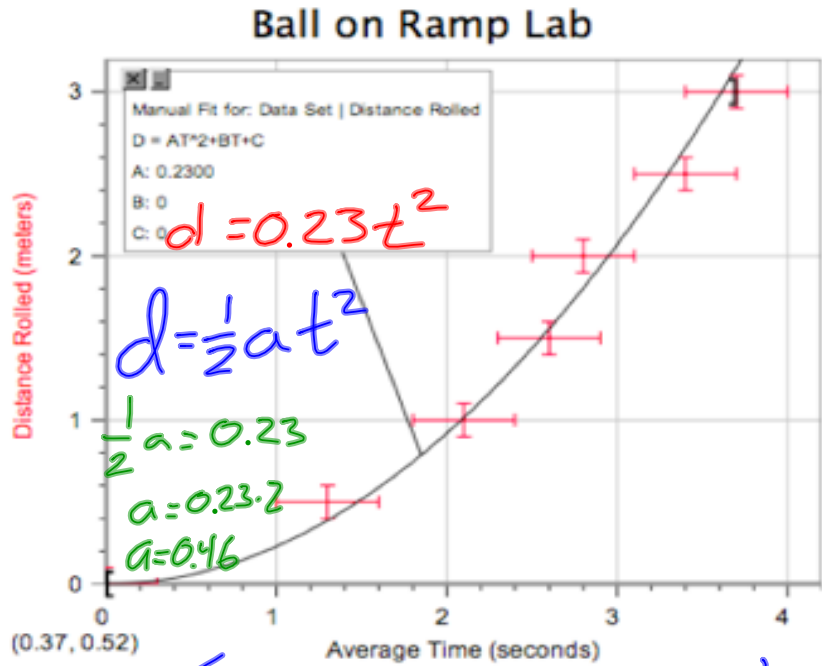


Getting Quantitative with Graphs

Look at the distance versus time. How long does it take the ball to fall 1.6 meters?

How long does the ball take to reach a speed of 1.0 m/s?

$t = ?$ $V = 1.0 \text{ m/s}$



c. Constant Acceleration

$d = \frac{1}{2}at^2$

\downarrow

$a = 0.46$

D.

$V = at$

$V = 0.46t$

$V = 0.46t$

$\frac{1.0 \text{ m/s}}{0.46} = \frac{0.46t}{0.46}$

$\frac{1.0 \text{ m/s}}{0.46 \text{ m/s}^2} = t$

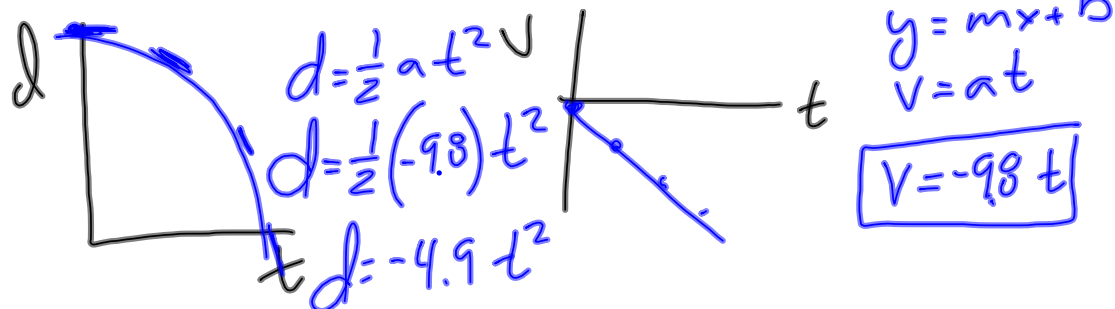
$2.17 \frac{1}{s} = t$

$2.17 \text{ s} = t$

Free Fall

Definition: when an object is falling and accelerating because of gravity.

acceleration due to gravity: $g = 9.8\text{m/s/s}$



How long will it take a ball to fall 5.5m?

$$t = ? \quad d = 5.5\text{m}$$