# Projectile Motion

## 1st Video

$$v_{f,y} = a_y \Delta t \qquad v_{f,y}{}^2 = 2a_y \Delta y$$

$$\Delta y = \frac{1}{2} a_y (\Delta t)^2$$

# Practice

$$\Delta x = v_x \Delta t$$

A ball rolls off a 0.7 m high table and strikes the floor 0.25 m away from the base of the table. How fast was the ball moving?

Givens
$\Delta x = 0.25$ m
$\Delta y = 0.7$ m
$g = 9.8$ m/s$^2$
$v_i =$ _____

$$v_{f,y} = a_y \Delta t \qquad v_{f,y}{}^2 = 2a_y \Delta y$$

# Practice

$$\Delta y = \frac{1}{2} a_y (\Delta t)^2$$

$$\Delta x = v_x \Delta t$$

A projectile is launched with a horizontal speed of 100 m/s from the top of a cliff which is 5000 meters tall. How far does the projectile land from the base of the cliff?

Givens
Δy =5000 m
g = 9.8 m/s²
v$_i$ = 100 m/s
Δx = _____

* Continue on to the next video