

# PROJECTILE MOTION Scavenger Hunt!

Equation:  $h = -16t^2 + 18t + 5$

$$t = \frac{-18}{2(-16)} = 0.5625 \quad h = -16(0.5625)^2 + 18(0.5625) + 5$$

$$= 10.06$$

10.06 ft

Equation:  $h = -16t^2 + 20$

$$t = \frac{0 \pm \sqrt{0^2 - 4(-16)(20)}}{2(-16)}$$

$$t = \frac{0 \pm \sqrt{1280}}{-32}$$

$$t = \{ \cancel{-1.125}, 1.125 \}$$

1.12 sec.

Equation:  $h = -16t^2 + 48t + 4$

$$(t=2) \quad h = -16(2)^2 + 48(2) + 4$$

$$= 36$$

36 ft.

Equation:  $h = -16t^2 + 72t + 100$

$$t = \frac{-72 \pm \sqrt{72^2 - 4(-16)(100)}}{2(-16)}$$

$$t = \frac{-72 \pm \sqrt{11584}}{-32}$$

$$t = \{ \cancel{-1.125}, 5.613 \}$$

5.61 sec.

Equation:  $h = -16t^2 + 112t + 5$

$$t = \frac{-112}{2(-16)} = 3.5 \quad h = -16(3.5)^2 + 112(3.5) + 5$$

$$= 201$$

201 ft

Equation:

$$2x + 3 = 7$$

$$2x = 7 - 3$$
$$2x = 4$$
$$x = \frac{4}{2}$$
$$x = 2$$

$$x = 2$$

Equation:

$$3x - 5 = 10$$

$$3x = 10 + 5$$
$$3x = 15$$
$$x = \frac{15}{3}$$
$$x = 5$$

$$x = 5$$

Equation:

$$4x + 2 = 14$$

$$4x = 14 - 2$$
$$4x = 12$$
$$x = \frac{12}{4}$$
$$x = 3$$

$$x = 3$$

$$x = 3$$

Equation:

$$5x - 8 = 22$$

$$5x = 22 + 8$$
$$5x = 30$$
$$x = \frac{30}{5}$$
$$x = 6$$

$$x = 6$$

Equation:

$$6x + 1 = 13$$

$$6x = 13 - 1$$
$$6x = 12$$
$$x = \frac{12}{6}$$
$$x = 2$$

$$x = 2$$