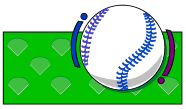
Projectiles Shot at an Angle-LEVEL 1

Make sure to use the GUE! **Name: _____Hr.____**

$a_y = \frac{v_{fy} - v_{iy}}{\Delta t}$	$v_x = \Delta x / \Delta t$	$\Delta y = v_{iY}\Delta t + 1/2 a_Y \Delta t^2$
(Use to find the time at the top where $v_{fy} = 0$)	**Use the total time.**	**Use the time at the top to find Δy. (maximum height)**

1. A baseball player hits a pitched ball at 35 m/s at a 40° N of E. *(Hint: 35 m/s is v!)*

Sketch: **Given:** **horizontal** **vertical**



a. How long (Δt) does it take the baseball to reach its highest point? ***(2.3 sec.)***

b. Find the maximum height of the ball. ***(25.8 m)***

2. A man is shot out of a cannon at 30° N of E with a velocity of 49 m/s and is in the air for 5 sec total before he lands.

Sketch: **Given:** **Horizontal:** **Vertical:**

a. How far away will he land horizontally? (212 m)

b. Find his maximum height: (**Think about what time to use!**)(30.6 m)

3. A baseball is hit at 30.0 m/s at an angle of 53° N of E. How far does the ball travel horizontally? ***(88.4 m)***

Sketch: ***Given:*** ***horizontal*** ***vertical***

4. You launch your Angry Bird at 12 m/s at 42° N of E. Calculate the maximum height of your Angry Bird during its flight. *(answer ≈ 3.3 m)*