Name: _____Mod:_____

# Projectile Motion Worksheet 2

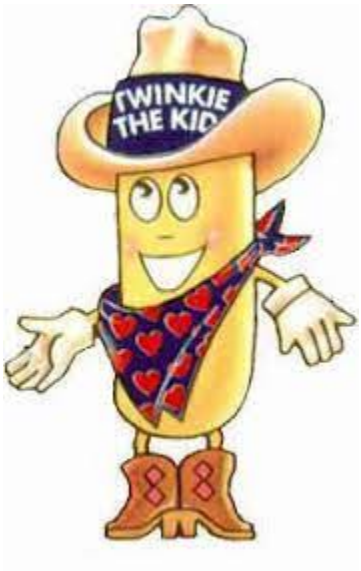
1. An inconsiderate tourist stands on the edge of the Barringer crater in Arizona and throws a half-eaten Twinkie™ horizontally with a velocity of 5.00 m/s. The floor of the crater is 214 m below. What horizontal distance will the Twinkie™ travel before hitting the floor of the crater? We are ignoring the effect of wind and air resistance.

X Problem (horizontal motion equation)

| | |
|---|---|
| S = D/T | d =<br>s=<br>t= |

Y problem (vertical free fall equations)

| | |
|---|---|
| $d = 1/2gt^2$ | d=<br>g=<br>t = |




2. A bucket of golf balls is dropped from a helicopter traveling with a speed of 75 m/s. After 2 seconds, one ball lands in the hole of the 18th green at Augusta National Country Club. Assuming no air resistance, what was the horizontal distance between the ball and the bottom of the cup when it fell from the helicopter?

X Problem (horizontal motion equation)

| | |
|---|---|
| S = D/T | d =<br>s=<br>t= |

Y problem (vertical free fall equations)

| | |
|---|---|
| $d = 1/2gt^2$ | d=<br>g=<br>t = |

3. A soccer ball is kicked horizontally off a 22.0-meter high hill and lands a distance of 35.0 meters from the edge of the hill. Determine the initial horizontal velocity of the soccer ball.

X Problem (horizontal motion

| | |
|---|---|
| S = D/T | d =<br>s=<br>t= |

Y problem (vertical free fall equations)

| | |
|---|---|
| $d= 1/2gt^2$ | d=<br>g=<br>t = |

4. Make up your own problem here and solve it. Make sure you give yourself the information you need.

X Problem (horizontal motion equation)

| | |
|---|---|
| S = D/T | d =<br>s=<br>t= |

Y problem (vertical free fall equations)

| | |
|---|---|
| $d= 1/2gt^2$ | d=<br>g=<br>t = |