Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd \_\_\_\_\_\_\_\_\_

**Projectile Motion Quiz**

**Use GUESS steps for full credit.**

1. A penny is launched off the Golden Gate bridge with an initial velocity of 20.0 m/s at an angle of 0**°** with the horizontal. The bridge is 227 m high. Find the horizontal displacement of the penny.

 2. When the penny is just about to strike the water, find the following:

 a) the vertical component of the velocity (hint: the penny has been in free fall for the time you found in #1)

 b) the resultant velocity (magnitude and direction, being the angle below the horizontal)

 3. A soccer ball is kicked with a velocity of 30.0 m/s at an angle of 37**°** above the horizontal.

 a) Find the components of the soccer ball’s velocity.

 b) Find the maximum height of the soccer ball.

c) Find the range (horizontal displacement) of the soccer ball.

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd \_\_\_\_\_\_\_\_\_

 **Quick Quiz B – Projectile Motion**

$$v\_{x}=v\cos(θ) v\_{y}=v\sin(θ )Δx=v\_{x}t v\_{yf}=v\_{yi}+at Δy=v\_{yi}t+\frac{1}{2}at^{2} a= -9.8 m/s^{2 }$$

1. A penny is launched off the Ravenel bridge with an initial velocity of 17.0 m/s at an angle of 0**°** with the horizontal. The bridge is 175 m high. Find the horizontal displacement of the penny.

2. A soccer ball is kicked with a velocity of 26.0 m/s at an angle of 40**°** above the horizontal.

 a) Find the components of the soccer ball’s velocity.

 b) Find the maximum height of the soccer ball.

 c) Find the range (horizontal displacement) of the soccer ball.

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd \_\_\_\_\_\_\_\_\_

 **Quick Quiz C – Projectile Motion**

$$v\_{x}=v\cos(θ) v\_{y}=v\sin(θ )Δx=v\_{x}t v\_{yf}=v\_{yi}+at Δy=v\_{yi}t+\frac{1}{2}at^{2} a= -9.8 m/s^{2 }$$

1. A penny is launched off the Ravenel bridge with an initial velocity of 22.0 m/s at an angle of 0**°** with the horizontal. The bridge is 175 m high. Find the horizontal displacement of the penny.

2. A soccer ball is kicked with a velocity of 34.0 m/s at an angle of 39**°** above the horizontal.

 a) Find the components of the soccer ball’s velocity.

 b) Find the maximum height of the soccer ball.

 c) Find the range (horizontal displacement) of the soccer ball.