Name _____ Date _____

Honors Physics Vectors/Projectiles WS #8H

Period _____ Mrs. Nadworny

Angled Projectiles

Directions: Read textbook pages 102 -104. Solve the following problems using the GUESS method. Show ALL work neatly using proper units and significant figures.

1. A golf ball is hit at an angle of 45° above the horizontal. What is the acceleration of the golf ball at its highest point in its trajectory? [Neglect friction]

   A) 0.0 m/s^2
   B) 6.9 m/s^2 horizontally
   C) 9.8 m/s^2 upward
   D) 9.8 m/s^2 downward

2. The path of a projectile fired at a 30° angle to the horizontal is best described as

   A) circular B) parabolic C) linear D) hyperbolic

3. For a projectile launched at an angle, if it takes 4 seconds to reach the highest point, the total flight time is _____.

4. Rhoda Bote throws a rock into the air with an initial speed of 49.0 m/s at an angle of 58.0^0 with the horizontal. It returns to Earth at the same level from which it was launched.

   a. Calculate the initial vertical speed of the rock.

   b. Calculate the initial horizontal speed of the rock.

   c. Calculate how long it was in the air.

   d. Calculate how far away it landed.

	x	y
d		
t		
a		
v_i		
v_f		

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5. A baseball is thrown with a horizontal component of 25 meters per second. It takes 3.00 seconds to return back to its original height.

    a. Calculate the horizontal range of the baseball.

    b. Calculate the initial vertical component of the speed.

    c. Calculate the initial angle of launch.

    d. Calculate the initial speed at which the speed was thrown.

Answers in size order: 8.48, 14.7, 26.0, 28.7, 30.5, 41.6, 75.0, 220.