HW 3.3 Gazelles out of Cannons   Per _____ Name _____

1. A gazelle traveling 200 m/s is launched at a 40 degree angle with respect to the horizontal.

    a. What is the horizontal component of the gazelle's velocity?

    b. What is the vertical component of the gazelle's velocity?

    c. How much time will the gazelle be in the air?

X	Y
$\Delta x=$	$\Delta y=$
$v_x=$	$v_i=$
$t=$	$v_f=$
	$a= -9.8$ m/s^2
	$t=$

    d. How far will the gazelle travel before it hits the ground?

    e. How high will the gazelle go?

2. A ball is kicked at an angle of 35 degrees at a velocity of 20 meters per second. A tall fence is 12 meters away.

    a. What is the horizontal component of the ball's velocity?

    b. What is the vertical component of the ball's velocity?

    c. How much time will it take for the ball to reach the fence?

X	Y
$\Delta x=$	$\Delta y=$
$v_x=$	$v_i=$
$t=$	$v_f=$
	$a= -9.8$ m/s^2
	$t=$

    d. How high above the ground will the ball hit the fence?

3. An athlete executing a long jump leaves the ground with a velocity of 6 m/s at an angle of 30 degrees above horizontal.

a. How long was the long jumper in the air?

X	Y
Δx=	Δy=
v_x=	v_i=
t=	v_f=
	a= -9.8 m/s^2
	t=

b. What was the maximum height of the long jumper?

c. How far of a long jump did the athlete make?

4. A ball is kicked at an angle of 35 degrees at a velocity of 20 meters per second.

a. How long was the ball in the air?

X	Y
Δx=	Δy=
v_x=	v_i=
t=	v_f=
	a= -9.8 m/s^2
	t=

b. What was the maximum height of the ball?

c. How far did the ball go?