Projectile Motion

NAME_____

Explain each of the following in full sentences and thoughts:

Projectile motion:

X and Y independence:

Ideal Path:

Orbiting or to orbit:

Vector quantity:

Scalar quantity:

Component:

Resultant:

Equilibrant:

Further Understanding the concepts:

At what angle does a thrown ball reach its greatest height?

At what angle does a thrown ball reach its greatest horizontal distance (also known as range?

If you throw a ball straight up at 40 m/s at what velocity will you catch the ball?

If you thrown a ball to a friend who is at the same level as you with a velocity of 40 m/s at what speed will they catch it?

What if your friend is lower then you, will the speed be the same, lower or higher?

What one quantity ties both x and y components together in projectile motion?

Understanding Processes of thought:

What are the four steps to completing the parallelogram method of graphical addition of vectors?

What are the eight steps necessary to correctly complete the unit vector addition form for adding vectors together?

Complete understand:

The Wile Coyote is chasing the Road Runner, when the Road Runner steps aside at the top of the cliff. If the cliff is 200 m high and the Wile Coyote is moving in the horizontal direction at 20 m/s before he leaves the cliff, where will he land? What will is vertical velocity be? What will his horizontal velocity be and why? What will his resultant speed be and at what angle will he hit the ground?