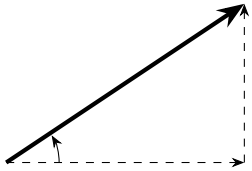
Name: Date: Period:

Post-Break Projectile Review

1. What two things must a *vector* have?

2. What are the most basic one-dimensional, two-dimensional, and three-dimensional shapes?

3. In the following diagram, label the *resultant* and the *x-component*, and the *y-component*.

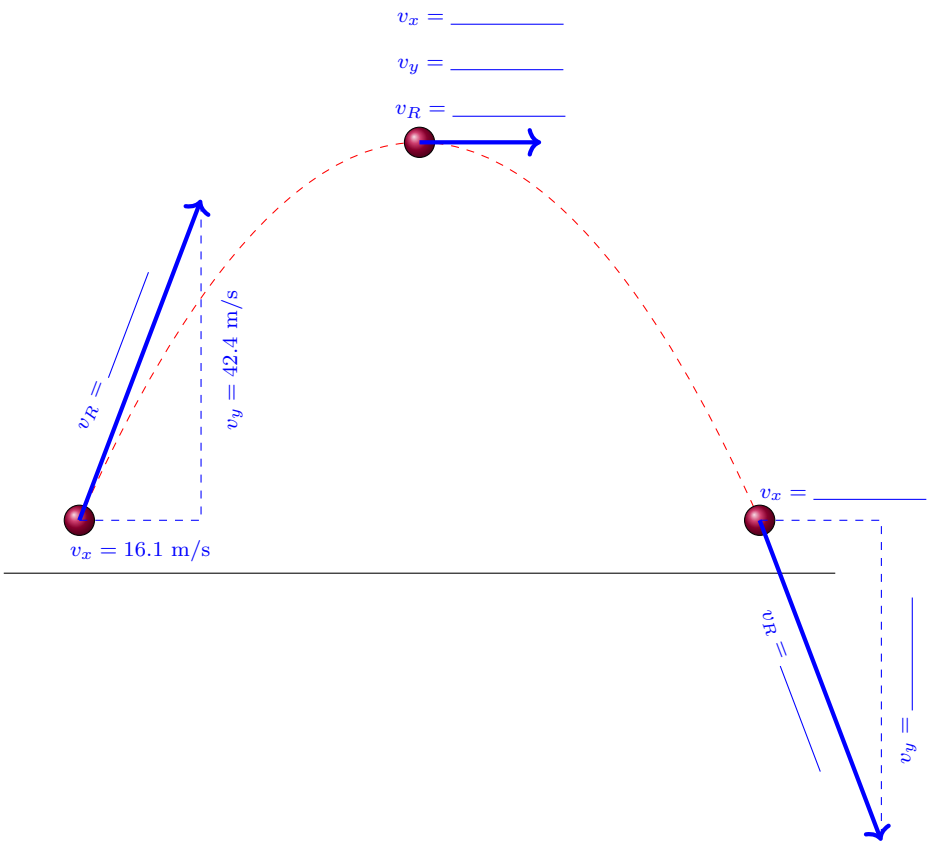


4. What happens to the x-component and y-component of a projectile's velocity over time?

5. Why does this cause the curved shape of the projectile?

6. For a given initial projectile speed, which angle gives the furthest range? Why is that?

7. Given a projectile with an initial x-velocity of 16.1 m/s and an intial y-velocity of 42.4 m/s, fill in the missing velocity measurements on the diagram below



8. See if you can use kinematic equations to determine the following:

$v_f = v_i + at$	$d = v_i t + \frac{1}{2}at^2$	$v_f^2 = v_i^2 + 2ad$
"Old Faithful"	*"The Big Chalupa"*	*"Ain't Got no Time"*

   (a) Time that the projectile was in the air.

   (b) Range (x-displacement) of the projectile.