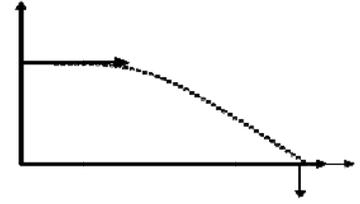
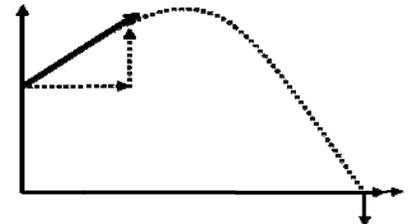


Non-Symmetrical Projectile Motion 1

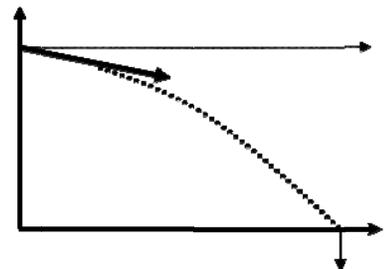
1. A projectile is fired horizontally from a height of 12 m with an initial velocity of 5 m/s. What is the projectile's initial velocity in rectangular form? What is the range of the projectile? How long is it in the air? What is the final velocity of the projectile in rectangular form?



2. A projectile is fired from a height of 8 meters above the ground with an initial velocity of 12 m/s @ 25°. What is the initial velocity in rectangular form? How long is the projectile in the air until it hits the ground? At what time is the object at its maximum height? What is its maximum altitude? What is the horizontal distance traveled? What is the object's final velocity in rectangular form?



3. A projectile is fired downward from a height of 30m above the ground with an initial velocity of 10 m/s @ 34°. What is the initial velocity in rectangular form? What is the total time the projectile is in the air? What is the horizontal distance traveled? At what time is the projectile 10 meters above the ground? What is the final velocity of the projectile in rectangular form?



Name: _____

Mr. Croom's Physics

Date: _____

Chapter 3: Two Dimensional Motion

10. At what angle should a slingshot be oriented for maximum altitude? For maximum range?
11. . Neglecting drag, if you throw a ball straight upward with an initial velocity of 20 m/s, how fast will it be moving when you catch it?
12. In the absence of drag, why does the horizontal component of velocity for a projectile remain constant, and why does only the vertical component change?
13. How does the downward component of the motion of a projectile compare to the motion of free fall?
14. How far below an initial straight-line path will a projectile fall in one second?
15. A railroad flat car is equipped with a cannon that points straight up. The train is moving due east at a constant velocity, and the cannon is fired. Neglecting air resistance, discuss where the shell will strike when it returns to Earth.