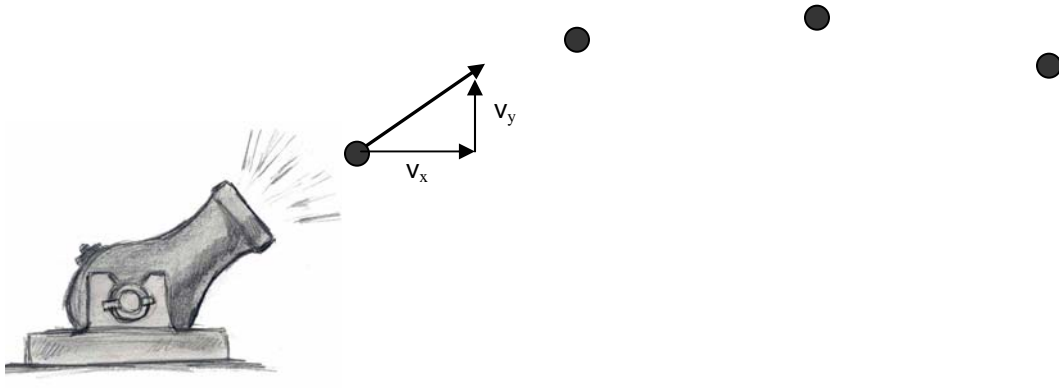


1. Draw in the x -velocity and y -velocity components for each dot along the path of the cannonball. The first one is done for you.



2. A stone is thrown horizontally at a speed of 8.0 m/s from the edge of a cliff 80 m in height. How far from the base of the cliff will the stone strike the ground?
3. A toy car moves off the edge of a table that is 1.25 m high and lands 0.40 m from the base of the table. How much time passed between the moment the car left the table and the moment it hit the floor?
4. A pistol is fired horizontally toward a target 120 m away but at the same height. The bullet's velocity is 200 m/s . How long does it take the bullet to get to the target? How far below the target does the bullet hit?

5. Jeff Chandler of the *San Francisco 49ers* kicked a field goal with an initial velocity of 20 m/s at an angle of 60° .

a. How long is the ball in the air? You may assume that it lands at same height as it starts at.

b. What is the range and maximum height of the ball?

6H. James Bond is trying to jump from a helicopter into a speeding 1973 Nova to capture the bad guy. The car is going 30 m/s and the helicopter is flying completely horizontally at 100 m/s. The helicopter is 120 m above the car and 440 m behind the car. How long must James Bond wait until he jumps in order to safely make it in the car?

