

Projectile Motion WS I

1. In a game of basketball, a forward makes a bounce pass to the center. The ball is thrown with an initial speed of 4.30 m/s at an angle of 15.0° below the horizontal. It is released 0.800 m above the floor. What horizontal distance does the ball cover before bouncing?
2. A fire hose ejects a stream of water at an angle of 35.0° above the horizontal. The water leaves the nozzle with a speed of 25.0 m/s . Assuming that the water behaves like a projectile, how far from a building should the fire hose be located to hit the highest possible fire?
3. A baseball player hits a home run, and the ball lands in the left-field seats, 7.50 m above the point at which it was hit. It lands with a velocity of 36.0 m/s at an angle of 28.0° below the horizontal. Ignoring air resistance, find the initial velocity (magnitude and direction) with which the ball leaves the bat.