

CHAPTER 4

1. A ball is thrown at a speed of 29 m/s at an angle of 67 degrees. It hits the roof of a building 10 m high.
 - a. How long is the ball in the air?
 - b. How far in the x direction will the ball travel?

2. A ball is thrown from the roof of a building at a speed of 21 m/s, and at an angle of 41 degrees above horizontal. It hits the ground 13 m lower.
 - a. How long is the ball in the air?
 - b. How far in the x direction will the ball travel?

3. An arrow is shot horizontally at a bull's eye at speed of 32 m/s. The arrow hits 7.5 cm below the bull's eye.
 - a. How long is the arrow in the air?
 - b. How far away is the target?

4. A car is traveling at a speed of 50.0 m/s on a circular track of radius 320m.
 - a. What is its centripetal acceleration in m/s^2 ?
 - b. What is the centripetal force on the car if its mass is 800kg?

3. An arrow is shot horizontally at a bull's eye at speed of 30 m/s. The target is 12 m away.
 - a. How long is the arrow in the air?
 - b. How far below the bull's eye does the arrow hit the target?