7. The world's largest flowerpot is 1.95 m high. If you were to jump horizontally from the top edge of this flowerpot at a speed of 3.0 m/s, what would your landing velocity be?

8. A marble rolls off the edge of a table that is 0.734 m high. The marble is moving at a speed of 0.122 m/s at the moment that it leaves the edge of the table. How far from the table does the marble land?

9. A downed pilot fires a flare from a flare gun. The flare has an initial speed of 250 m/s and is fired at an angle of 35° to the ground. How long does it take for the flare to reach its maximum altitude?

10. You accidentally throw your car keys horizontally at 8.0 m/s from a cliff 64-m high. How far from the base of the cliff should you look for the keys?

11. An arrow is shot at 30.0° above the horizontal. Its velocity is 49 m/s, and it hits the target.
    a. What is the maximum height the arrow will attain?
    b. The target is at the height from which the arrow was shot. How far away is it?

12. A downed pilot fires a flare from a flare gun. The flare has an initial speed of 250 m/s and is fired at an angle of 35° to the ground. How long does it take for the flare to reach its maximum altitude?

13. A busy waitress slides a plate of apple pie along a counter to a hungry customer sitting near the end of the counter. The customer is not paying attention, and the plate slides off the counter horizontally at 0.84 m/s. The counter is 1.38 m high.
    a. How long does it take the plate to fall to the floor?
    b. How far from the base of the counter does the plate hit the floor?
    c. What are the horizontal and vertical components of the plate's velocity just before it hits the floor?

14. A ball is thrown from a 20 m high roof with a speed of 10.0 m/s and an angle of 37.0° with respect to the horizontal. How far is the ball from the building 2.5 s after it is thrown? How far is the ball from the ground 2.5 s after it is thrown?

15. A tennis ball is thrown toward a vertical wall with a speed of 21.0 m/s at an angle of 40.0° above the horizontal. The horizontal distance between the wall and the point where the tennis ball is released is 23.0 m.

    a. At what height above the point of release does the tennis ball hit the wall?

    b. Has the tennis ball already passed the highest point on its trajectory when it hits the wall? Justify your answer.