

6A Horizontal Projections

1. A ball is thrown horizontally, with speed 20ms^{-1} , from the top of a building of height 30m.
Find:
 - a) The time the ball takes to reach the ground

- b) The horizontal distance travelled in that time

2. A particle is projected horizontally with a velocity of 15ms^{-1} . Find:
- a) The horizontal and vertical components of the displacement of the particle from the point of projection after 3 seconds

- b) Find the distance of the particle from its starting point after 3 seconds

3. A particle is projected horizontally with a speed of $U \text{ ms}^{-1}$ from a point 122.5m above a horizontal plane. The particle hits the plane at a point which is at a horizontal distance of 90m away from the starting point.

Find the initial speed of the particle.