

Projectiles



Space School

<p>1.</p> <p>Find the distance a ball lands from the edge of a table if it is given a horizontal speed of 6ms^{-1} and takes 3s to hit the ground.</p> <p>[18 m]</p>	<p>2.</p> <p>A ball is given a horizontal speed of 9ms^{-1} off a tower. It takes 2 s to hit the ground. Determine the vertical speed of the ball just as it lands.</p> <p>[19.6 m/s]</p>	<p>3.</p> <p>A small object is given a horizontal speed of 8ms^{-1} off a tower. It takes 2.5 s to strike the ground. How far from the foot of the tower did it land.</p> <p>[20 m/s]</p>
<p>4.</p> <p>A small rocket is fired horizontally with a speed of 15ms^{-1} from the top of a tower. Find the vertical speed of the rocket just before it lands 8 s later.</p> <p>[78 m/s]</p>	<p>5.</p> <p>Find the horizontal distance travelled by a stone thrown from the top of a cliff with a horizontal speed of 6ms^{-1} if it takes 3 seconds to land.</p> <p>[18 m]</p>	<p>6.</p> <p>A small rock is thrown horizontally with a speed of 12ms^{-1}. Find its vertical speed if it lands 2 s later.</p> <p>[19.6 m/s]</p> <p><i>On a separate piece of paper find its resultant speed just before it lands.</i></p>
<p>7.</p> <p>A snooker ball is knocked off a flat table with a horizontal speed of 6ms^{-1} it lands 0.49 s later.</p> <p>Find the vertical speed of the ball just before it lands and determine the resultant speed of the ball just before it lands.</p> <p>[4.8 ms^{-1}]</p>	<p>8.</p> <p>A marble is pushed off a table with a horizontal speed of 4ms^{-1} landing with a vertical speed of 3ms^{-1}</p> <p>Find its resultant speed just before it lands.</p> <p>[5 ms^{-1} 37 degrees below horiz]</p>	<p>9.</p> <p>A stuntman runs off a flat roof with a horizontal speed of 4.5ms^{-1} He lands 1.5 s later on the ground.</p> <p>How far did he land from the edge of the roof.</p> <p>[6.8 m]</p>