

Projectile Motion/Relative Motion Practice Test

1. Which of the following is NOT an example of projectile motion?
  - a) a tennis ball served over a net
  - b) a baseball hit by a bat
  - c) a balloon drifting toward the ground
  - d) a child jumping over a small creek
  - e) a frog jumping from your hand to the ground
2. What is geometric shape of a projectile's path?
  - a) a wavy line
  - b) a parabola
  - c) a hyperbola
  - d) a straight line
  - e) projectiles do not follow a predictable path
3. A ball moves with a constant speed of 15 m/s at an angle of 30 degrees with the x axis, what is the x component of its velocity?
  - a) 7.5m/s
  - b) 9.0m/s
  - c) 13m/s
  - d) 15
4. An arrow flies horizontally off the edge of a cliff at a velocity of 25.2 m/s. If the desert floor below is 100.0 m down, how far from the edge of the cliff does the arrow land?
  - a) 114 m
  - b) 228 m
  - c) 337 m
  - d) 514 m
5. A rock is thrown at an angle of 30.0 degrees above the horizontal from the top edge of a cliff with an initial speed of 18 m/s. A stopwatch measures the rock's trajectory time from the top of the cliff to the bottom at 4.7s. What is the height of the cliff?
  - a) 33 m
  - b) 42 m
  - c) 66 m
  - d) 151 m
6. A long jumper launches himself into the air with an initial speed of 14.3m/s at an angle of 20.0 degrees above the horizontal. How long is he in the air before returning to earth?
  - a) 0.50 s
  - b) 1.0 s
  - c) 1.4 s
  - d) 2.0 s
  - e) 2.8 s
7. A passenger in a cab moving west sees a man standing on a curb. From the passenger's perspective, the man appears to
  - a) stand still
  - b) move east with a speed less than the cab's speed
  - c) move east with a speed equal to the cab's speed
  - d) move west with a speed equal to the cab's speed