1. A ball is thrown upward from the roof of a building at a velocity of 28 m/s at an angle of 35° with the horizontal, and the ball lands 86.5 m from the base of the building. What is the x-component of velocity \( v_x \) at the instant the ball strikes the ground?
   (a) 0  \hspace{0.5cm} (b) 22.9 m/s  \hspace{0.5cm} (c) 16.06 m/s  \hspace{0.5cm} (d) 9.8 m/s^2  \hspace{0.5cm} (e) none of the above

2. What is the x-component of acceleration \( a_x \) in problem 1?
   (a) 9.8 m/s^2  \hspace{0.5cm} (b) 0  \hspace{0.5cm} (c) 22.9 m/s^2  \hspace{0.5cm} (d) 16.06 m/s^2  \hspace{0.5cm} (e) none of the above

3. A satellite orbits the earth with a uniform circular speed of 7.6 km/s. What is the direction of the satellite's acceleration?
   (a) in the direction of the velocity  \hspace{0.5cm} (b) towards the earth's center  \hspace{0.5cm} (c) opposite to the direction of the velocity  \hspace{0.5cm} (d) acceleration equals zero