

Topic 3 Study Guide

I. Things to memorize. The fundamental principle of this topic is that position, velocity, and acceleration are vector quantities. Thus, x , v_x , and a_x are completely independent of y , v_y , and a_y .

II. Proofs. Show that the range, Δx , for a projectile launched off a cliff of height h with initial speed v at an angle θ above the horizontal is given by $\Delta x = \frac{1}{g}v^2 \sin \theta \cos \theta + \frac{1}{g}v \cos \theta \sqrt{v^2 \sin^2 \theta + 2gh}$.

III. Problem solving. There will be 1 or 2 questions directly from the HW and 1 or 2 original questions.