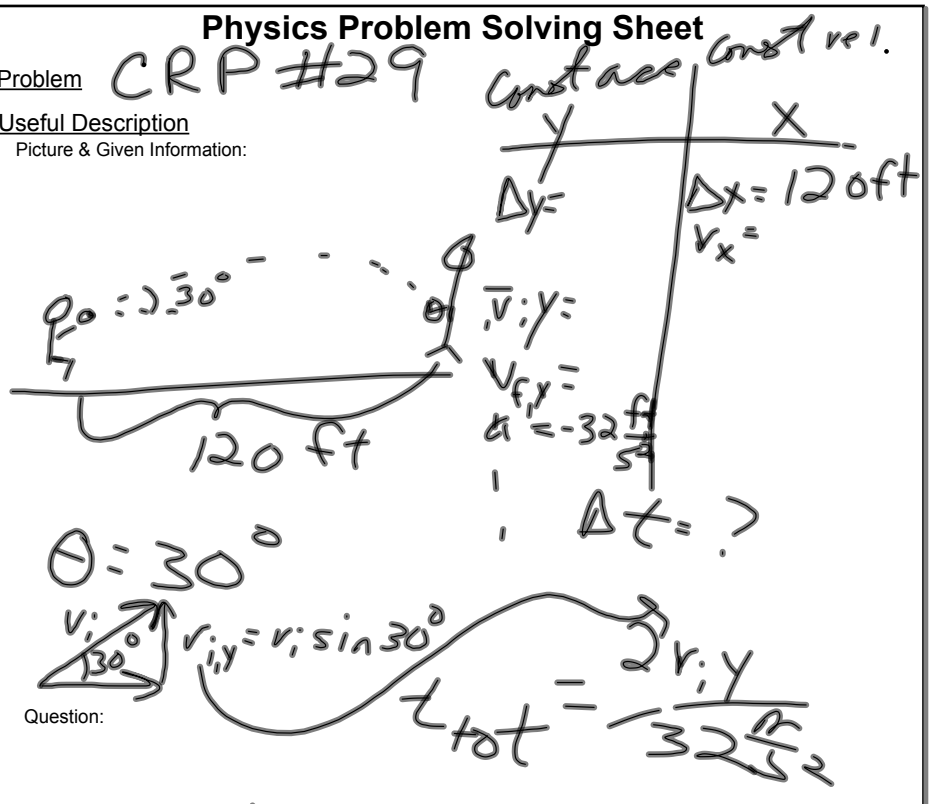
Physics Problem Solving Sheet

Problem CRP #29

Useful Description

Picture & Given Information:



Question:

Target Quantiy: Δt

Physics Approach

Physics Concepts and/or Principles:

Specific Application of Physics

Assumptions/ Constraints:

Specific Equations:

$$\Delta x = \frac{v_i^2 \sin 2\theta}{32 \frac{ft}{s^2}}$$

Mathematical Procedures

Employ specific equations to solve for target quantity.

$$v_i = \sqrt{\frac{\Delta x (32 \frac{ft}{s^2})}{\sin 2\theta}} = \sqrt{\frac{(120)(32)}{\sin 60°}} = 66.65 \frac{ft}{s}$$

$$v_{iy} = 66.65 \frac{ft}{s} \sin 30° = 33.3 \frac{ft}{s}$$

$$t_{tot} = \frac{2 v_{iy}}{32} = \frac{2(33.3 \frac{ft}{s})}{32} = 2.1 s$$

Check units & calculate