Proposed Problem

2D motion

CRP #25

- Create Useful description - sketch, graphs, define quantities, define problem
- Physics Approach - list physics concepts that would apply to this problem
- Specific Application of Physics - use the concepts to model mathematically model the problem
- Mathematical Procedures - use the equations to solve the problem

Aug 5-9:52 AM

Physics Problem Solving Sheet

Useful Description

Picture & Given Information:

Const. acc Y	Const vel. X
$\Delta y = 0.75ft$	$\Delta x = 300ft$
$v_{iy} = 0 \frac{ft}{s}$	$v_x =$
$v_{fy} =$	
$a = 32 \frac{ft}{s^2}$	
$\Delta t =$	

$9in \times \frac{1ft}{12in} = 0.75ft$

Question: what is the muzzle velocity?

Target Quantiy: V_x

Jul 26-9:35 PM

Physics Problem Solving Sheet (cont.)

Physics Approach

Physics Concepts and/or Principles:

see last slide

Specific Application of Physics

Assumptions/ Constraints:

no air res.

Specific Equations:

$$v_x = \frac{\Delta x}{\sqrt{\frac{2\Delta y}{-32\ ft/s^2}}} =$$

Mathematical Procedures

Employ specific equations to solve for target quantity.

$$v_x = \frac{300\,ft}{\sqrt{\frac{2(-0.)5ft)}{-32\ ft/s^2}}} = -1386\ ft/s$$

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