Proposed Problem

Pg 99

Practice D #1

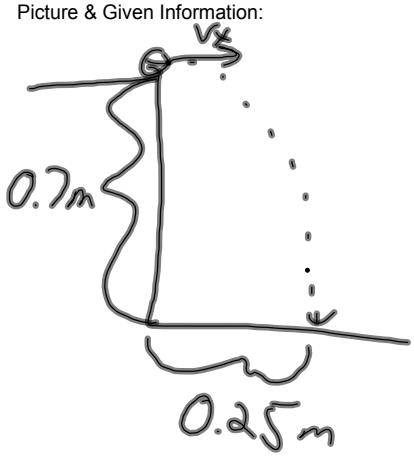
- Create Useful description - sketch, graphs, define quantities, define problem
- Physics Approach - list physics concepts that would apply to this problem
- Specific Application of Physics - use the concepts to model mathematically model the problem
- Mathematical Procedures - use the equations to solve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

Aug 5-9:52 AM

Physics Problem Solving Sheet

Useful Description

Picture & Given Information:



Const acc. Y	Const vel. X
$\Delta y = -0.7m$	$\Delta x = 0.25m$
$v_{i,y} = 0 \frac{m}{s}$	$v_x = ?$
$v_{f,y} =$	
$a_y = -9.8 \frac{m}{s^2}$	
$\Delta t =$	

Question: How fast does the ball roll off the desk?

Target Quantiy: v_x

Jul 26-9:35 PM

Physics Problem Solving Sheet (cont.)

Physics Approach

Physics Concepts and/or Principles:

see previous slide.

Specific Application of Physics

Assumptions/ Constraints:

air rest, & ~~friction~~

Specific Equations:

$v_x = \frac{\Delta x}{\Delta t}$

$\Delta y = \frac{1}{2} a t^2 + v_i \cdot t$

Mathematical Procedures

Employ specific equations to solve for target quantity.

$v_x = \frac{\Delta x}{\Delta t} = \frac{0.25\,m}{\sqrt{\frac{2\Delta y}{a}}} = \frac{0.25\,m}{\sqrt{\frac{2(.7\,m)}{-9.8\,m/s^2}}} = 0.66\,\frac{m}{s}$

$\Delta y = \frac{1}{2} a t^2 + v_i \cdot t$ ~~$v_i \cdot t$~~

$\sqrt{\frac{2\Delta y}{a}} = t$ calc: $0.25 / \sqrt{(2 \times .7 / -9.8)} =$ Δt

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