Minds on Physics Internet Modules - Microsoft Internet Explorer provided by Murrieta Valley USD

http://www.physicsclassroom.com/mop/module.cfm

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the Physics Classroom

Minds on Physics Internet Modules

You're looking at Version 4 of the Minds on Physics Internet Modules. For those who need it, version 3 is still present on our servers here. Version 3 will be removed by the end of October.

Minds on Physics

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Kinematic Graphing

KG10 Common Misconceptions

For Credit Mode
Student ID #: 28251
Teacher Code: VMHSJL

As represented by this velocity-time graph, this object is ____.

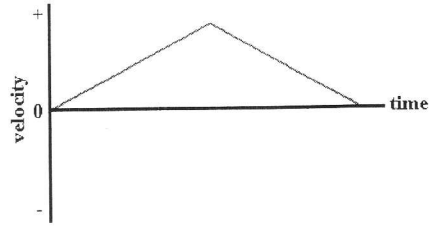
a. speeding up, changing directions and then slowing down

b. speeding up and then slowing down while moving in the positive direction

c. moving with a constant positive velocity and then a constant negative velocity

d. accelerating while moving in the positive direction, then accelerating while moving in the negative direction

e. ... nonsense! None of these appropriately describe the object's motion.



Answer:

Check Answer

Progress 30 %

Health 80 %

Questions

Hints & Help

View Objectives Quit Assignment

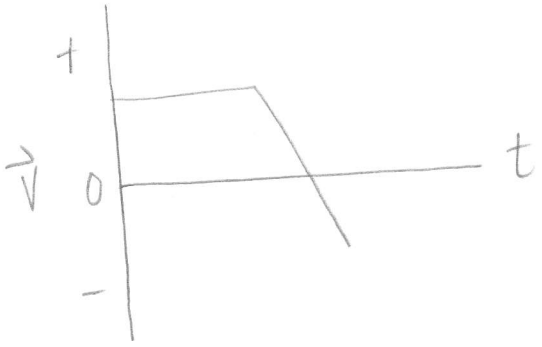
For previous users of version 3 of MOP: if you view a "Module Title Goes Here" message and an apparent freezing of the program, then your browser is loading a version 3 file into this page from your computer's cache. The new version is not being drawn in from our server. The fix involves "emptying the cache" and re-loading the page.

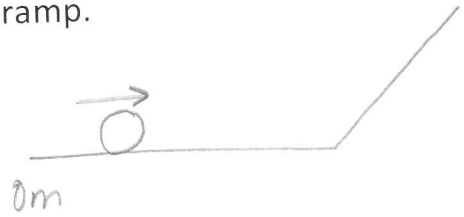
Internet | Protected Mode: Off 105%

answer = b

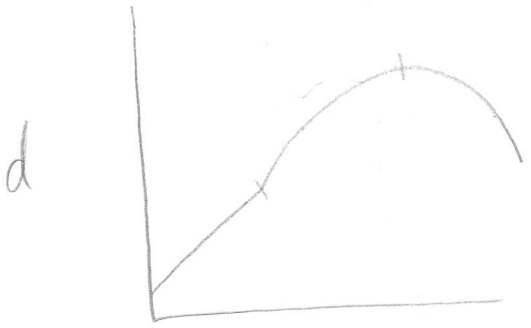
Draw a v-t graph for this situation:

A marble is rolling to the right on a flat surface, then rolls up a ramp, stops for an instant at the top of the ramp, and then rolls back down the ramp.





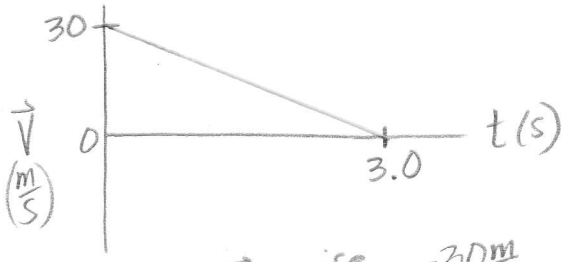
Also draw the d-t graph:



Mechanics Unit v-t graphs gpb video: Phys Std:

Practice:

1. Grace is driving her sports care at +30.0 m/s when a ball rolls out into the street in front of her. Grace slams on the brakes and comes to a stop in 3.0 s. What was the acceleration of Grace's car? (Use a v-t graph to solve this problem) How long were the skid marks she left on the street?



$$\text{slope} = \vec{a} = \frac{\text{rise}}{\text{run}} = \frac{-30\frac{m}{s}}{3s}$$

$$= \boxed{-10\frac{m}{s^2}}$$

"How long were the marks"

↓

must calculate $\Delta\vec{x}$

↓

area under curve

$\left(\frac{1}{2} \cdot b \cdot h\right)$

$$\Delta\vec{x} = \frac{1}{2}(3s)\left(30\frac{m}{s}\right) = \boxed{45m}$$