Acceleration Practice Problems

Part 1: Identify your variables in the problem

1.) A car is traveling at 12 m/s slows down at a constant rate for 4 seconds until it stops. What is its acceleration? (Note: you are not solving it yet, just identify your variables)

a =

vf =

vi =

t =

2.) A runner covers the last straight stretch of a race in 4 s. During that time, he speeds up from 5 m/s to 9 m/s. What is the runners acceleration in this part of the race?

a =

vf =

vi =

t =

3.) A pebble fell from a bridge to the water below. The pebble entered the water at a speed of 19.6 m/s. How long did it take the pebble to reach the water from the bridge?

a =

vf =

vi =

t =

4.) An airplane travels down a runway for 4.0 seconds with an acceleration of 9.0 m/s2. What is its change in velocity during this time?

a =

vf =

vi =

t =

Part 2: Determine Δ v.

You will see the same set of problems as you did above. This time you are just determining the Δv. Which is vf – vi. All the other answers you just copy the answer from part 1

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4.) An airplane travels down a runway for 4.0 seconds with an acceleration of 9.0 m/s2. What is its change in velocity during this time?

a =

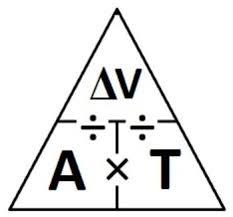
vf =

vi = Δ v =

t =

Part 3: Set up your triangle AND Calculate answers

Once again you will see the same problems as above. Now just transfer your #’s from Part 2 and put in your triangle. Then you can calculate answer and get your final answer



1.) A car is traveling at 12 m/s slows down at a constant rate for 4 seconds until it stops. What is its acceleration? (Note: you are not solving it yet, just identify your variables)

a =

Δ v =

t = Final Answer =

2.) A runner covers the last straight stretch of a race in 4 s. During that time, he speeds up from 5 m/s to 9 m/s. What is the runners acceleration in this part of the race?

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