

## Pre-Lab 3 Physics 152

Assume you have the data as below:

Times (s)	Distance (cm)
0.0	0.436
1.0	0.500
2.0	0.941
3.0	1.759
4.0	2.953
5.0	4.523
6.0	6.470
7.0	8.794
8.0	11.495

You fit it into a quadratic curve, which as the expression of

$$x = 0.1883t^2 - 0.1241t + 0.4361$$

The unit of quantity 0.1883 should be \_\_\_\_\_ What physical quantity is it? \_\_\_\_\_

The unit of quantity -0.1241 should be \_\_\_\_\_ What physical quantity is it? \_\_\_\_\_

The unit of quantity 0.4361 should be \_\_\_\_\_ What physical quantity is it? \_\_\_\_\_

How do you know?

If you compare your fitting function to the formula of  $x = \frac{1}{2}at^2 + v_0t + x_0$

Do you want to change any of the answer(s) in previous questions?

Please come to a summarize indicating why you can (cannot) decide the physical quantity from a curve fitting.