

Math 31L Lab Quiz #1

Based on the lab *Strategies for Buying Stocks*

Blake, Fall 2001

Total points: 20

Name: _____

1. On January 1, stock in the W. W. Widget company sold for \$34. On February 1, the same stock sold for \$37.

a. (2 points) What units are attached to the difference quotient $\frac{37-34}{1/12}$?

b. (4 points) What is the meaning of the difference quotient $\frac{37-34}{1/12}$ in the context of this problem ?

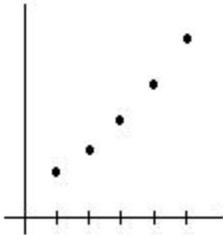
Check one answer below:

- _____ It's the rate at which WWW stock was changing at any instant in the month of January.
- _____ It's the average rate at which the price of the stock changed during the month of January.
- _____ It's the instantaneous velocity of a widget which has been moving during the month of January.
- _____ It's the slope of a line tangent to the price function on February 1.

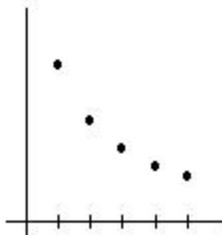
c. (4 points) What additional information would you need to be able to compute the average “acceleration” of WWW prices in February? Make up the information you need, and compute the acceleration for February. Make it clear what you are assuming. If you need a number, then use the number 45.

d. (2 points) What are the units of the “acceleration”?

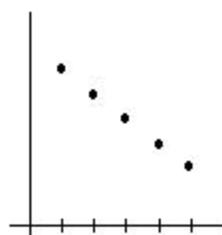
2. (8 points) Each plot below shows stock prices over five consecutive months. (None of these is the same as the WWW stock above.) Beside each description indicate all plots which have the indicated properties.



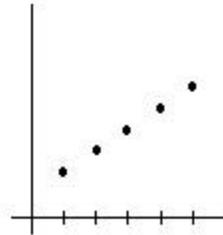
Stock A



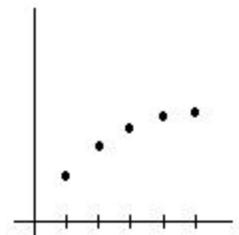
Stock B



Stock C



Stock D



Stock E

_____ List all stocks for which all difference quotients for consecutive months are positive.

_____ List all stocks for which all difference quotients of difference quotients are positive.

_____ List all stocks for which all difference quotients are positive and all difference quotients of difference quotients are negative.

_____ List all stocks which have zero acceleration.