FST Name:

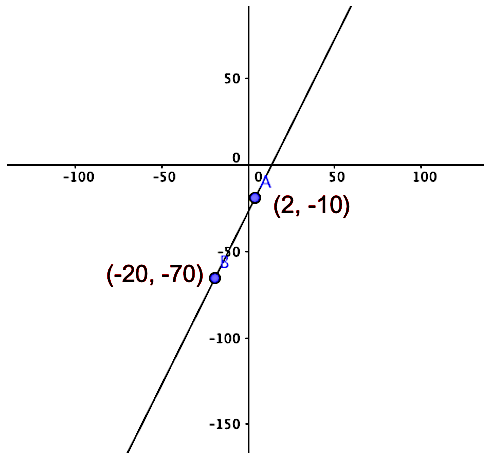
2.2 Notes Date: Block:

***Chapter 2.2: Curve Fitting with Linear and Quadratic Functions***

|  |  |
| --- | --- |
| Point Slope Form | Transformation of a Linear Function |

1. What does “a” represent? 2. What do the “h” and “k” represent?

Example) Write the linear model for the graph below.



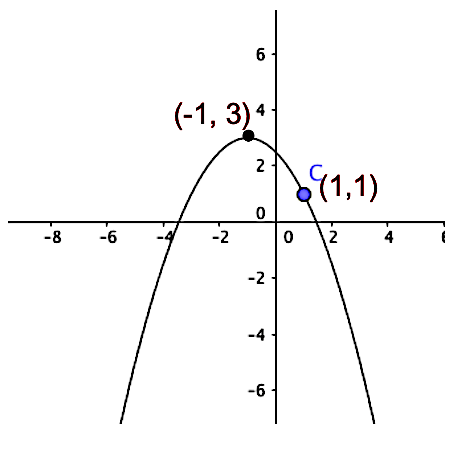
Example) Open up the CODAP file titled **Linear Modeling Activity** and follow the directions. Go through the process three times. Record the NewDataSet number you choose and the Noise number you choose.

|  |  |  |
| --- | --- | --- |
| NewDataSet Number: | NewDataSet Number: | NewDataSet Number: |
| Noise Number: | Noise Number: | Noise Number: |
| a: | a: | a: |
| h: | h: | h: |
| k: | k: | k: |
| Final Model: | Final Model: | Final Model: |

|  |  |
| --- | --- |
| Vertex Form of a Quadratics | Transformation of a Quadratic Function |

1. What does “a” represent? 2. What do the “h” and “k” represent?

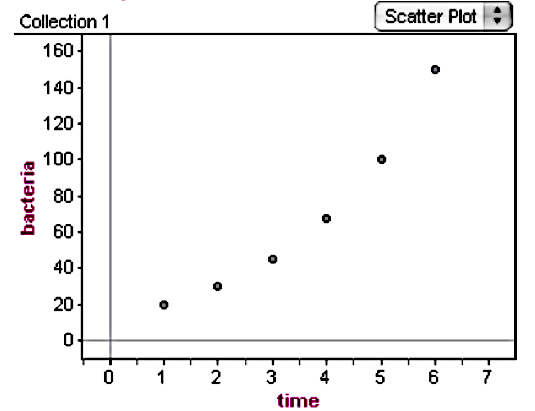
Write a quadratic model for the graph below.



Example) Open up the CODAP file titled **Quadratic Modeling Activity** and follow the directions. Go through the process three times. Record the NewDataSet number you choose and the Noise number you choose.

|  |  |  |
| --- | --- | --- |
| NewDataSet Number: | NewDataSet Number: | NewDataSet Number: |
| Noise Number: | Noise Number: | Noise Number: |
| a: | a: | a: |
| h: | h: | h: |
| k: | k: | k: |
| Final Model: | Final Model: | Final Model: |

Example) The scatter plot represents the total number of bacteria growing in a petri dish starting at 1:00PM.

1. Write a **quadratic model** for the data.

2. How many bacteria will be in the dish at 3:00am?

(use your model from part a)

3. At what time will there be 200 bacteria in the dish?

Example) Open a blank CODAP file and insert the data below to see if there is a relationship between total fat grams in each sandwich and total calories.



a) Is a linear or quadratic function a better fit?

b) Create a model for this data.

c) Estimate how many calories would be in a sandwich

that contained 40 grams of fat?



d) Estimate how much grams of fat would be in a

sandwich that contained 1000 calories?