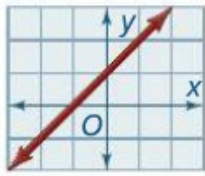


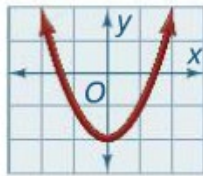
Math 2 Unit 10 Notes 9
Linear, Quadratic, and Exponential

Name: _____
 Date: _____ Per: _____

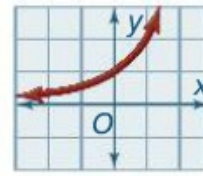
Linear: $y = mx + b$



Quadratic: $y = ax^2 + bx + c$



Exponential: $y = a \cdot b^x$



[1-3] When the x-values in a set of data pairs have a common difference, you can analyze data numerically to find the best model.

1.

x	y
-2	-1
-1	2
0	5
1	8

The y-values have a common difference of 3. A _____ model fits the data.

2.

x	y
-2	0.25
-1	0.5
0	1
1	2

The y-values have a common ratio of 2. A _____ model fits the data.

3.

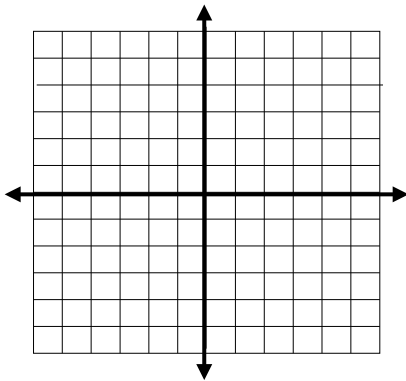
x	y
-1	1
0	-1
1	1
2	7
3	17

The second differences of the y-values are all 4, so a _____ model fits the data.

[4-6] Graph each set of points. Which model is most appropriate for each set? Choose from linear, quadratic, or exponential.

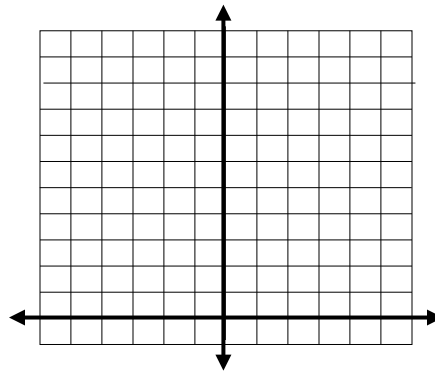
4. (0, 0), (1, 1), (-1, -0.5), (2, 3)

Model: _____



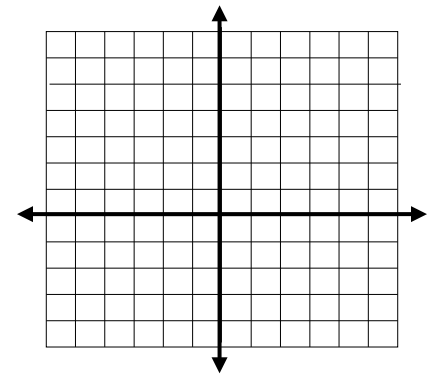
5. (0, 11), (1, 5), (2, 3), (3, 5)

Model: _____



6. (-4, -5), (-2, -2), (0, 1), (2, 4), (4, 7)

Model: _____



[7-10] Which type of function best models the data in each table? Choose from linear, quadratic, exponential or **neither**.
 Hint: Use differences or ratios

7. Model: _____

x	f(x)
-2	-3
-1	-1
0	1
1	3
2	5

8. Model: _____

x	f(x)
-3	1
-2	2
-1	5
0	10
1	17

9. Model: _____

x	f(x)
-2	0
-1	1
0	8
1	27
2	64

10. Model: _____

x	f(x)
-1	3
0	6
1	12
2	24
3	48