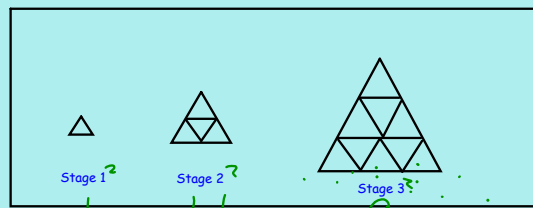


Section 9-7
Linear, Quadratic and
Exponential Models

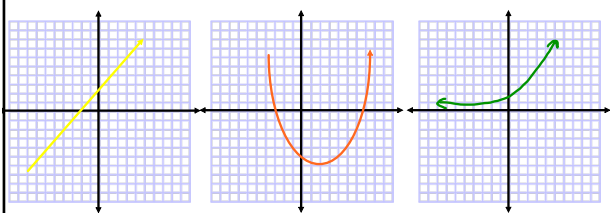
Students will be able to choose a linear, quadratic, or exponential model for data.



How many small triangles will there be in the 9th stage?

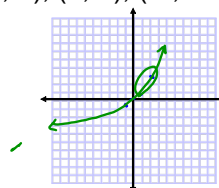
yes
it is

You can use the linear, quadratic or exponential functions you have studied to model some sets of data.

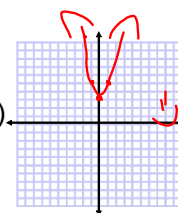


which model is the most appropriate for each set?

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



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



Things to remember:

-if the x values have a common difference and the y-values also have a common difference, it will be a linear model. *add / subtract same amount*

-if the x values have a common difference and the y-values have a common ratio, it is an exponential model. *multiply same amount*

-if the x values have a common difference, and the y-values have a common second difference, it is a quadratic model. *second differences same*

What type of function is the following?

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

Handwritten calculations:
 $1 - (-1) = 2$
 $1 - 1 = 0$
 $7 - 1 = 6$
 $17 - 7 = 10$
 $2 - 0 = 2$
 $6 - 2 = 4$
 $10 - 6 = 4$
 quad.
 $\frac{17}{7} - \frac{7}{1} = \frac{10}{7} = \frac{4}{1} = 4$

Hwk: pg. 592 - 593
#6 - 8 all, 12 - 17 all, 18, 22, 24