

# Algebra 1

## Chapter 9

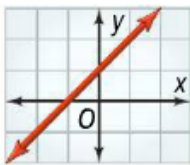
### Section 9-7

$$a \cdot b^x$$

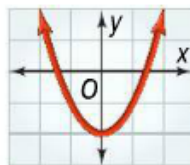
take note

#### Concept Summary Linear, Quadratic, and Exponential Functions

Linear:  $y = mx + b$

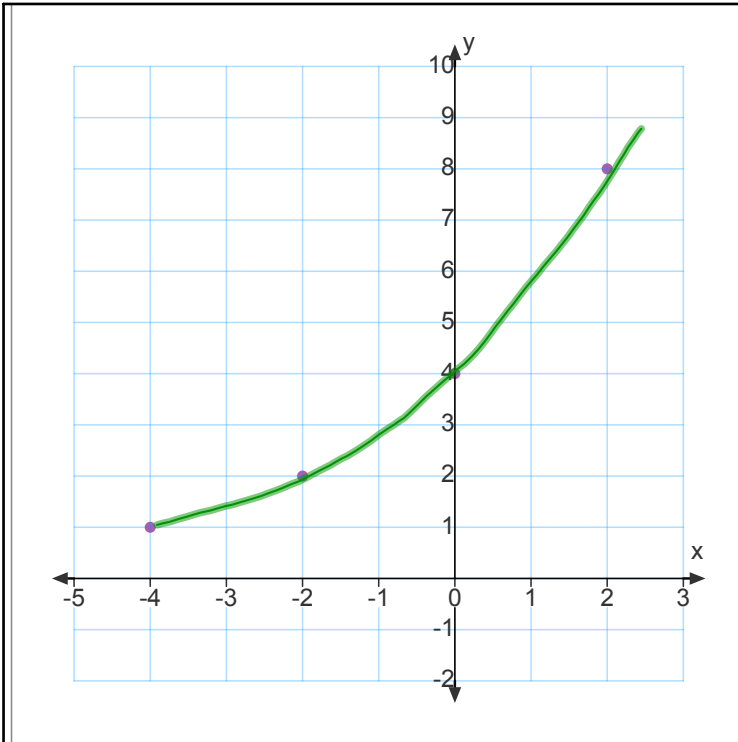


Quadratic:  $y = ax^2 + bx + c$



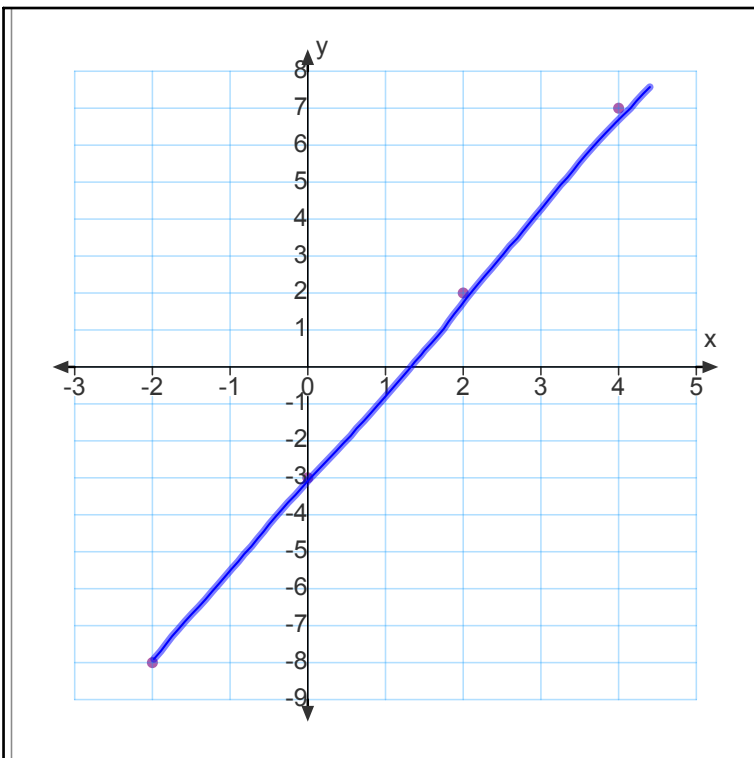
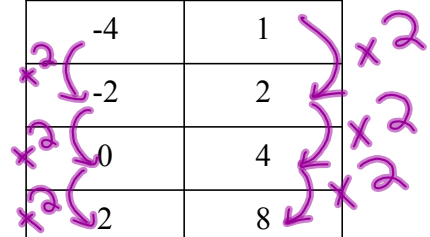
Exponential:  $y = a \cdot b^x$





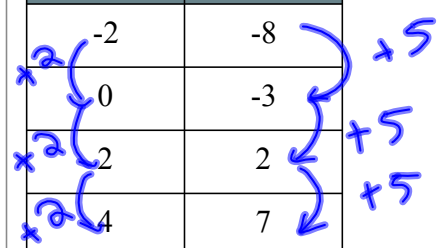
Determine if the relationship is linear, exponential, or quadratic.

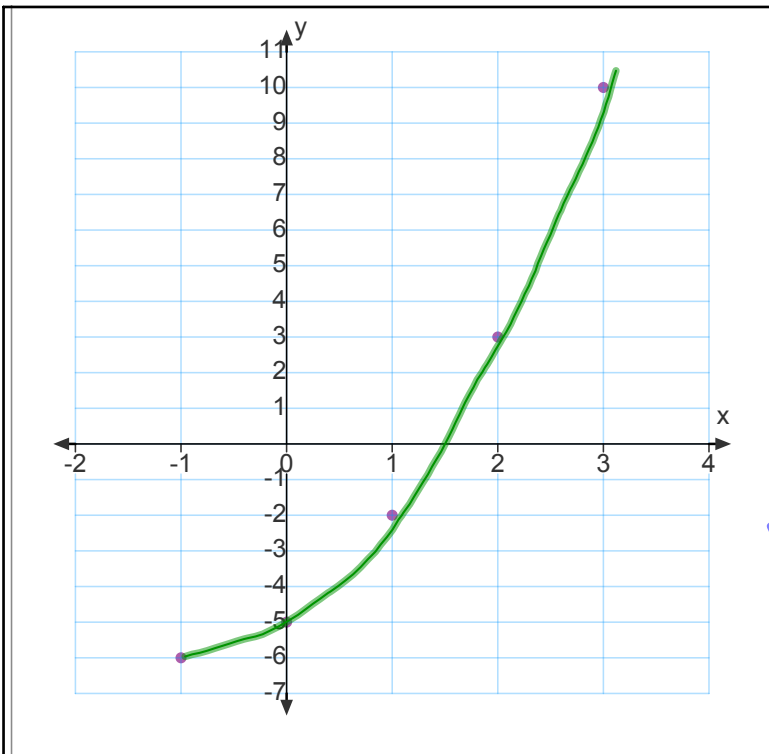
X	Y
-4	1
-2	2
0	4
2	8



Determine if the relationship is linear, exponential, or quadratic.

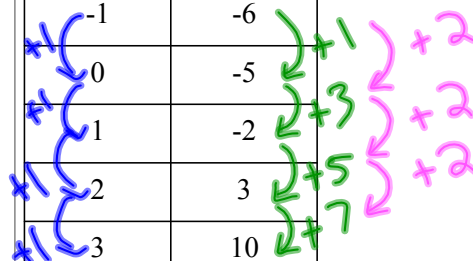
X	Y
-2	-8
0	-3
2	2
4	7





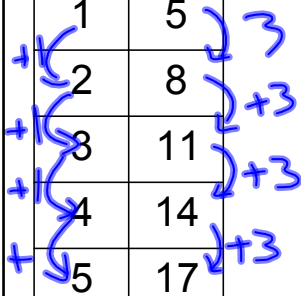
Determine if the relationship is linear, exponential, or **quadratic**.

X	Y
-1	-6
0	-5
1	-2
2	3
3	10



Determine if each relationship is linear, quadratic or exponential.

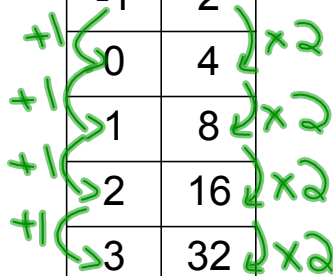
x	y
1	5
2	8
3	11
4	14
5	17



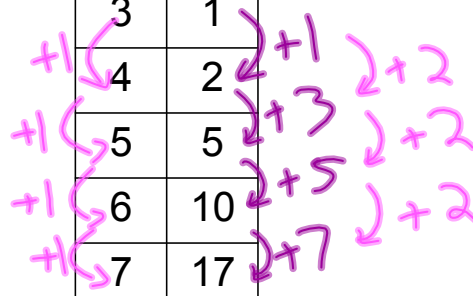
Linear

Exponential

x	y
-1	2
0	4
1	8
2	16
3	32



x	y
3	1
4	2
5	5
6	10
7	17



Quadratic

Determine if each relationship is linear, quadratic or exponential.

x	y
-3	0.2
-1	5
0	25

Handwritten notes for the first table:  
 -3 to -1:  $\times 25$   
 -1 to 0:  $\times 5$   
 $\frac{25}{50}$   
 Exponential

x	y
7	80
10	10
11	5

Handwritten notes for the second table:  
 7 to 10:  $-70$   
 10 to 11:  $-5$   
 $(\frac{1}{2})^3$   
 $\times \frac{1}{2}$   
 Exponential

x	y
2	6
4	3
6	6

Handwritten notes for the third table:  
 2 to 4:  $-3$   
 4 to 6:  $+3$   
 $+6$   
 Quadratic

x	y
-3	2
1	-3
9	-13

Handwritten notes for the fourth table:  
 -3 to 1:  $-5$   
 1 to 9:  $-10$   
 Linear  
 $m = \frac{-5}{4}$   
 $m = \frac{-10}{8} = \frac{-5}{4}$