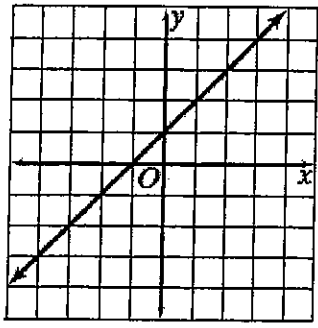
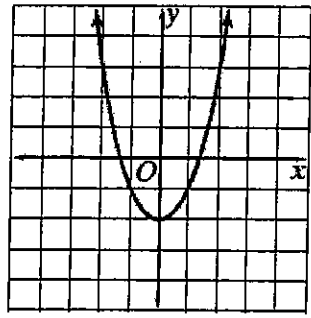


Key

Desmos.com  
 Linear =  $y \sim mx + b$   
 Quadratic =  $y \sim ax^2 + bx + c$

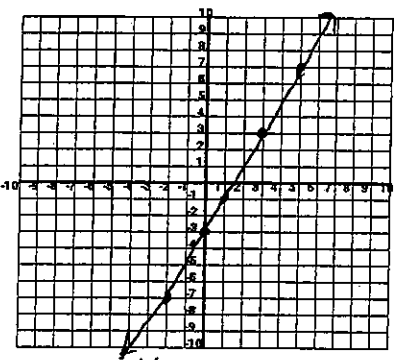
# LINEAR VS. QUADRATIC MODELS

LINEAR	QUADRATIC
	
Equation: $y = x + 1$	Equation: $y = x^2 - 2$

Directions: Use a graph to determine the model. Then, find the equation for the best fit.

1

x	y
-2	-7
0	-3
1	-1
3	3
5	7



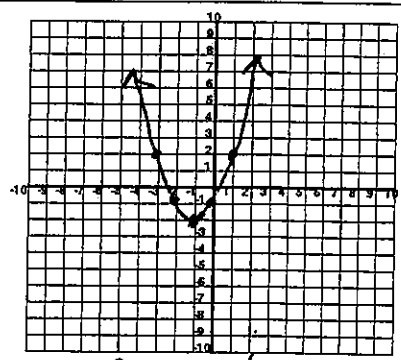
$m = 2$

Linear or Quadratic? Linear

Equation:  $y = 2x - 3$

2

x	y
-3	2
-2	-1
-1	-2
0	-1
1	2



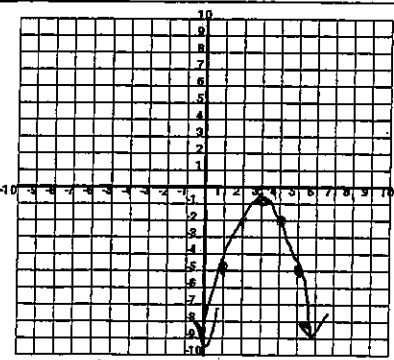
Linear or Quadratic? Quadratic

Equation:  $y = x^2 + 2x - 1$

$c = -1$

3

x	y
1	-5
2	-2
3	-1
4	-2
5	-5

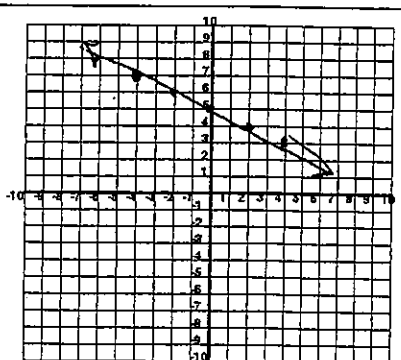


Linear or Quadratic? Quadratic

Equation:  $y = -x^2 + 6x - 10$

4

x	y
-4	7
-2	6
0	5
2	4
4	3

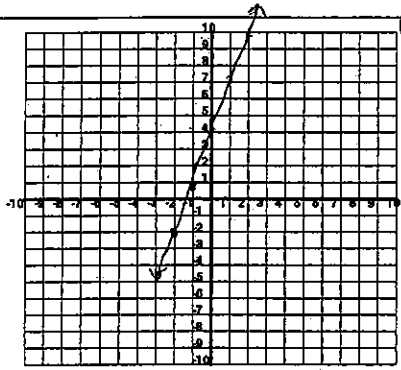


Linear or Quadratic? Linear

Equation:  $y = -\frac{1}{2}x + 5$

5

x	y
-2	-2
-1	1
0	4
1	7
2	10

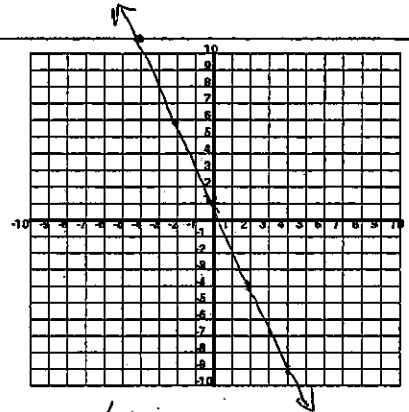


Linear or Quadratic? Linear

Equation:  $y = 3x + 4$

6

x	y
-4	11
-2	6
0	1
2	-4
4	-9

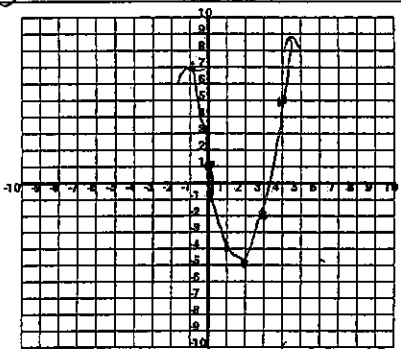


Linear or Quadratic? Linear

Equation:  $y = -\frac{5}{2}x + 1$

7

x	y
0	1
1	-4
2	-5
3	-2
4	5

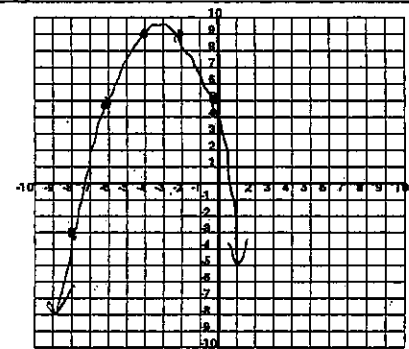


Linear or Quadratic? Quadratic

Equation:  $y = 2x^2 - 7x + 1$

8

x	y
-8	-3
-6	5
-4	9
-2	9
0	5



Linear or Quadratic? Quadratic

Equation:  $y = -0.5x^2 - 3x + 5$

9

The value, V, of a computer between 1999 and 2003 is given in the table.

t	1999	2000	2001	2002	2003
V	800	720	640	572	480

Linear or Quadratic? Linear

Equation:  $y = -78.8x + 158321$

Value of the computer in 2008? 90.6

10

A coin is thrown off the top of the Statue of Liberty, which is 305 feet from the ground. The height, h, of the coin is recorded after each second, t, in the table below.

t	h
0	305
1	367
2	397
3	395
4	361

Linear or Quadratic? Quadratic

Equation:  $y = -16x^2 + 78x + 305$

Height of the coin after 7 sec? 67