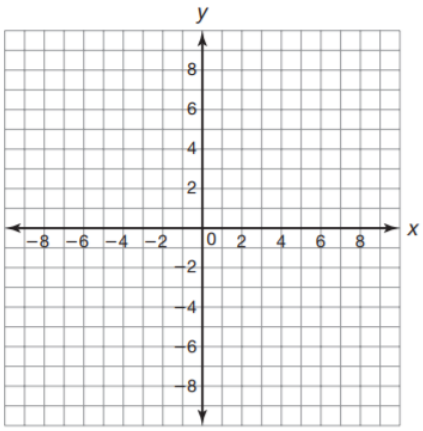
Name:_____Period:_____Date:_____

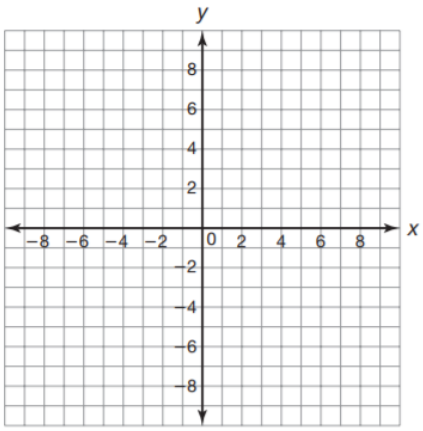
Graph each table of values. Describe the type of function represented by the graph.

x	y
−2	−8
0	0
2	4
4	4
6	0



Describe:

x	y
−3	−2
−2	0
−1	2
0	4
1	6



Describe:

Calculate the first and second differences for each table of values. Describe the type of function represented by the table.

x	y	First Differences	Second Differences
−2	12		
−1	3		
0	0		
1	3		
2	12		

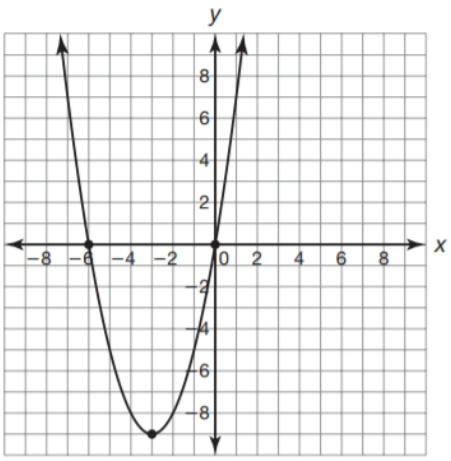
Describe:

x	y	First Differences	Second Differences
−3	3		
−2	4		
−1	5		
0	6		
1	7		

Describe:

Identify the intervals of increase and decrease for each function.

$f(x) = x^2 + 6x$



Determine the x-intercepts for each function.

$f(x) = (x + 16)(2x + 16)$

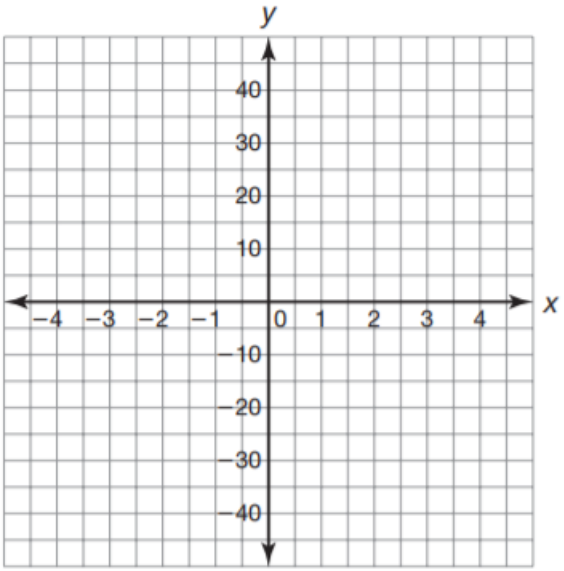
$f(x) = (x + 8)(3 - x)$

$f(x) = (3x + 18)(x - 2)$

$f(x) = (-2x + 8)(x - 14)$

$f(x) = x(x + 7)$

A football is thrown into the air from a height of 6 feet with an initial vertical velocity of 50 feet per second. The function $g(t) = -16t^2 + 50t + 6$ represents the height of the football, $g(t)$, t seconds after it was thrown.



Write a quadratic function that represents a parabola that opens upward and has x-intercepts (3, 0) and (7, 0).

Write a quadratic function that represents a parabola that opens downward and has x-intercepts (−5, 0) and (2, 0).