

UNIT 5 ASSIGNMENT: QUADRATIC FUNCTIONS

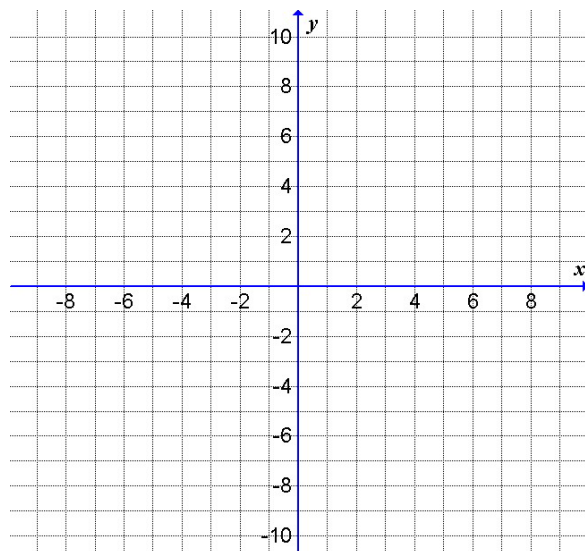
TOPIC Drawing Parabolas Using Table of Values (Day 1) 10	Graph $y = x^2$ <table><tr><th>x</th><th>$y = x^2$</th><th>(x, y)</th></tr><tr><td>-2</td><td>()² =</td><td></td></tr><tr><td>-1</td><td>()² =</td><td></td></tr><tr><td>0</td><td></td><td></td></tr><tr><td>1</td><td></td><td></td></tr><tr><td>2</td><td></td><td></td></tr></table>	x	$y = x^2$	(x, y)	-2	() ² =		-1	() ² =		0			1			2			Graph $y = -x^2 - 2$ <table><tr><th>x</th><th>$y = -x^2 - 2$</th><th>(x, y)</th></tr><tr><td>-2</td><td>-()² - 2 =</td><td></td></tr><tr><td>-1</td><td>-()² - 2 =</td><td></td></tr><tr><td>0</td><td>-()² - 2 =</td><td></td></tr><tr><td>1</td><td></td><td></td></tr><tr><td>2</td><td></td><td></td></tr></table>	x	$y = -x^2 - 2$	(x, y)	-2	-() ² - 2 =		-1	-() ² - 2 =		0	-() ² - 2 =		1			2		
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Analysis of a Parabola (Day 2) 12																																						
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TOPIC

Graphing
using Key
Points
(Day 4 & 5)

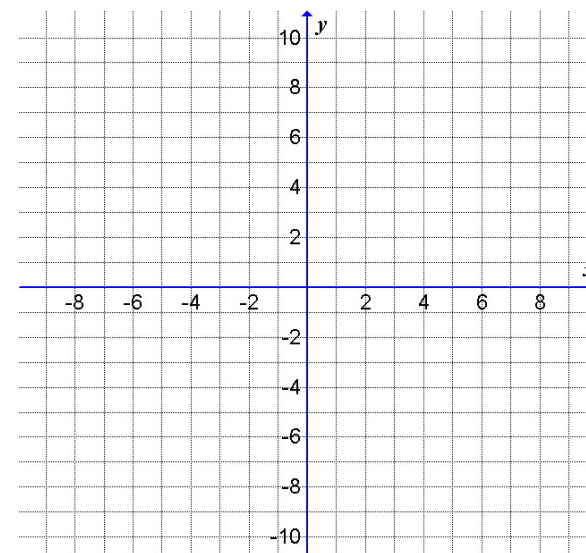
Graph $y = x^2 + 2x - 8$

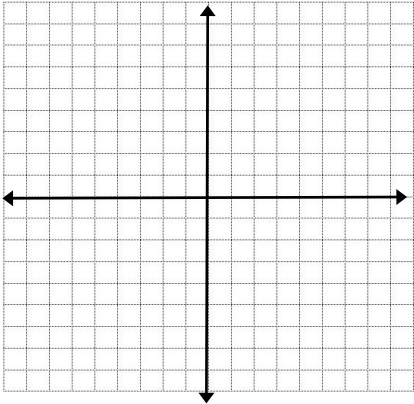
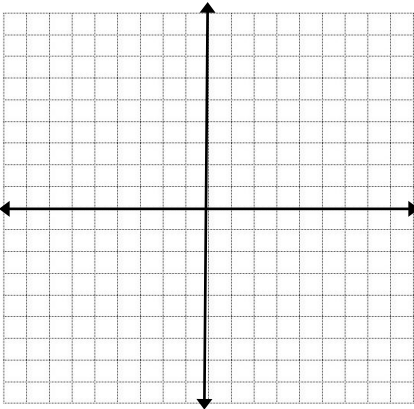
y-int	
x-int: Zeros	
AoS	
Vertex	



Graph $y = 2x^2 - 4x - 6$

y-int	
x-int: Zeros	
AoS	
Vertex	



TOPIC	Complete the table of values and graph.					Complete the table of values and graph the function.				
First and Second Differences <i>(Day 3)</i> 6	x	$y = -3x + 2$	(x,y)	1 st Diff.	2 nd Diff.	x	$y = x^2 - 2x - 3$	(x,y)	1 st Diff.	2 nd Diff.
	-2	8				-2	5			
	-1	5				-1	0			
	0	2				0	-3			
	1	-1				1	-4			
	2	-4				2	-3			
	3	-7				3	0			
	4	-10				4	5			
										
	Is this an example of a LINEAR or QUADRATIC relation? _____					Is this an example of a LINEAR or QUADRATIC relation? _____				

TOPIC

Application Problems
(Day 6)

14

An archer shoots an arrow at a target 20 m away. The following data show the height of the arrow above the ground at various times after it was shot. Complete the table.

Time (s)	Height (m)
0.0	1.18
0.5	2.12
1.0	2.98
1.5	3.44
2.0	3.62
2.5	3.44
3.0	2.98
3.5	2.12

Graph the relationship. Label axis.

What is the maximum height of the arrow?

What height was the arrow shot from?

A quarterback passes the football. The ball follows the path indicated by the data below. Complete the table.

Distance (m)	Height (m)	1 st Difference	2 nd Difference
0	2		
10	12		
20	18		
30	20		
40	18		
50	12		
60	2		

Graph the relationship. Label axis.

What do the 1st and 2nd differences tell you about the graph?

Approximately how far has the ball traveled when it hits the ground?

How far had it traveled when it was 10 m in the air?