MBF 3C: UNIT 5 – Factoring and Expanding with Quadratics Lesson 3: Investigating Standard Form

In this investigation you will graph different parabolas and determine the information about the equation of a quadratic relation in "standard form".

You will need to be able to determine the following about a parabola:

The y - intercept

The direction of opening

The step pattern

TECHNOLOGY OPTION To help you graph and plot the parabolas, enter the equation in the $Y=$							
screen on	your	TI – 83	graphing calculator, press	graph	to see the graph and		
press 2nd graph to see a table of values for the parabola							

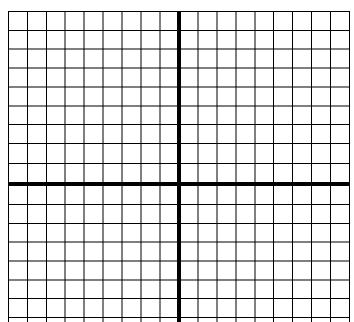
Parabola Investigation #1

$y = x^2 - 2x$	- 3																
		_															
of Values																	
v		<u> </u>															
		<u> </u>															
Fill in the following information																	
about the parabola:																	
What is the Direction of What		nat is the step pattern?			?	What is the y-intercept?											
Opening?				•	•							•			•		
		,,															
	owing informationals:	owing information pola: Direction of What	owing information pola: Direction of what is thing?	owing information poola: Direction of what is the sting?	owing information poola: Direction of ing?	owing information poola: Direction of what is the step pating?	of Values y owing information pola: Direction of ling?	of Values y owing information pola: Direction of ling?	owing information pola: Direction of what is the step pattern? What is the step pattern?	owing information pola: Direction of What is the step pattern? What is the step pattern?	e of Values y wing information pola: Direction of What is the step pattern? What is ing?	e of Values y wing information pola: Direction of What is the step pattern? What is the step pattern?	of Values y owing information oola: Direction of What is the step pattern? What is the y	of Values y owing information oola: Direction of What is the step pattern? What is the y-in sing?	of Values y wing information pola: Direction of What is the step pattern? What is the y-intercing?	of Values y wing information cola: Direction of What is the step pattern? What is the y-intercepting?	owing information pola: Direction of What is the step pattern? What is the y-intercept?

What do you notice about the y-intercept and the equation?

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Equation	$y = -2x^2 + 12x - 10$			
Table of Values				
X	y			
0				
1				
2				
3				
4				
5				
6				



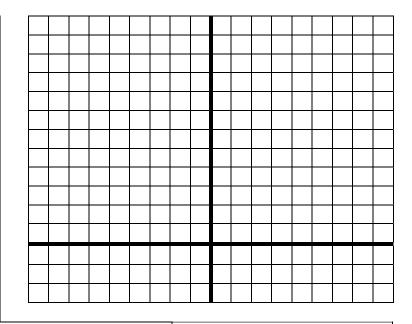
Fill in the following information about the parabola:

What is the Direction of	What is the step pattern?	What is the y-intercept?
Opening?		
	,	

How does the y – intercept relate to the equation?

Parabola Investigation #3

Equation	$y = 3x^2 + 12x + 9$						
Table	Table of Values						
X	\mathbf{y}						
-5							
-4							
-3							
-2							
-1							
0							
1							
	•						



Fill in the following information about the parabola:

What is the Direction of	What is the step pattern?	What is the y-intercept?
Opening?		
	,,	