

Exploring Quadratics in Factored Form: Student Worksheet

The quadratics we have explored so far have all been in the form $y = ax^2 + bx + c$. Recall what an equation in this form tells us about its graph.

- Using the graphing calculator at Desmos.com, graph each equation and record what you observe about the opening of the parabola and the point that it crosses the y-axis. This information fill in the chart below. Use your TI-Nspire calculator to check your conclusions.

Equation	Direction of the Opening of the parabola	Point where the parabola crosses the y axis	What is the rate of change between $x=0$ and $x=1$
a) $y = x^2 - 8x + 15$			
b) $y = x^2 + x - 6$			
c) $y = -x^2 + 4x$			
d) $y = 2x^2 + 4x + 2$			
e) $y = -3x^2 + 3$			
f) $y = 2x^2 + 12x + 10$			

$y = ax^2 + bx + c$
The "a" value determines something about the opening of the parabola, what do you notice?
The "c" value determines something about the y-intercept, what do you notice?