Properties of a Parabola   Name:
                                                        Date:

1. Complete the following table.

Equation	Vertex	Step Pattern From Vertex	Direction of Opening
$y = (x - 2)^2 + 1$			
$y = -(x + 4)^2 + 6$			
$y = 4(x - 4)^2 - 1$			
$y = 3(x + 7)^2 - 4$			
$y = -2(x - 10)^2 + 100$			
$y = (x - 4)^2 + 15$			
$y = -2(x + 2)^2 + 64$			
$y = 5(x - 10)^2 - 11$			
	(-3, -3)	2, 6, 10	Up
	(20, -10)	-1, -3, -5	Down

2. Sketch the graph of any five of the above quadratics from the table above.

MBF3C
BLM3.3.3   **Properties of a Parabola (Solution)**

Equation	Vertex	Step Pattern From Vertex	Direction of Opening
$y = (x - 2)^2 + 1$	**(2, 1)**	**1, 3, 5**	**Up**
$y = -(x + 4)^2 + 6$	**(-4, 6)**	**-1, -3, -5**	**Down**
$y = 4(x - 4)^2 - 1$	**(4, -1)**	**4, 12, 20**	**Up**
$y = 3(x + 7)^2 - 4$	**(-7, -4)**	**3, 9, 15**	**Up**
$y = -2(x - 10)^2 + 100$	**(10, 100)**	**-2, -6, -10**	**Down**
$y = (x - 4)^2 + 15$	**(4, 15)**	**1, 3, 5**	**Up**
$y = -2(x + 2)^2 + 64$	**(-2, 64)**	**-2, -6, -10**	**Down**
$y = 5(x - 10)^2 - 11$	**(10, -11)**	**5, 15, 25**	**Up**
$y = 2(x + 3)^2 - 3$	(-3, -3)	2, 6, 10	Up
$y = -(x - 20)^2 - 10$	(20, -10)	-1, -3, -5	Down