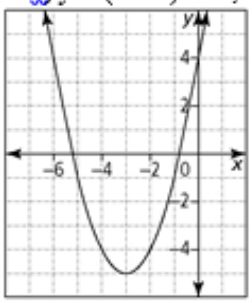
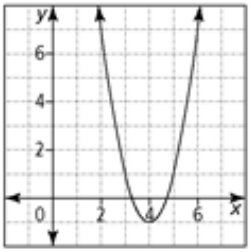
BLM 3–6 Section 3.3 Extra Practice

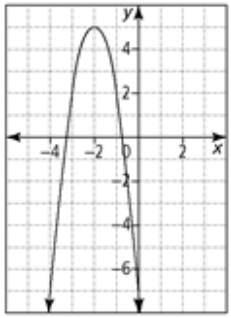
1. a) 25; $(x - 5)^2$ **b)** 16; $(x + 4)^2$ **c)** 36; $(x - 6)^2$
d) 1; $(x + 1)^2$
2. a) $y = (x + 1)^2 - 5$; $(-1, -5)$
b) $y = (x - 3)^2 + 4$; $(3, 4)$
c) $y = (x + 4)^2 - 10$; $(-4, -10)$
d) $y = (x + 12)^2 - 90$; $(-12, -90)$
3. a) $y = 3(x - 2)^2 + 1$ **b)** $y = -2(x + 5)^2 - 6$
c) $y = 6(x - 4)^2 - 96$ **d)** $y = -4(x + 7)^2$
4. a) $y = (x + 3)^2 - 5$; min of -5 when $x = -3$



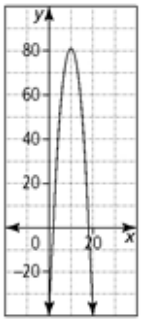
b) $y = 2(x - 4)^2 - 1$; min of -1 when $x = 4$



c) $y = -3(x + 2)^2 + 5$;
max of 5 when $x = -2$



d) $y = -1(x - 9)^2 + 81$;
max of 81 when $x = 9$



5.

	a)	b)	c)	d)
Vertex	$(-5, -9)$	$(-1, 6)$	$(-7.5, 4.5)$	$\left(\frac{1}{3}, \frac{2}{3}\right)$
Axis of symmetry	$x = -5$	$x = -1$	$x = -7.5$	$x = \frac{1}{3}$
Max/min	min $y = -9$	max $y = 6$	min $y = 4.5$	min $y = \frac{2}{3}$
Domain	$x \in R$	$x \in R$	$x \in R$	$x \in R$
Range	$y \geq -9$	$y \leq 6$	$y \geq 4.5$	$y \geq \frac{2}{3}$