

1) Given: $f(x) = \frac{1}{2}(x - 2)^2 - 4$

Algebra II
Review - Ch. 7

- a: Vertex = (2, -4)
- b: $f(x)$ opens: a) up b) down c) left d) right
- c: $f(x)$ is: a) fat b) skinny c) normal
- d: domain is \mathbb{R} e: x-intercepts $\{2 \pm 2\sqrt{2}\}$
- f: axis of symmetry $x = 2$
- g: the vertex is a a) maximum b) minimum c) neither
- h: the range is $[-4, \infty)$ i: y-intercept (0, -2)

2) Given: $f(x) = -3(x + 4)^2 + 9$

- a: Vertex = (-4, 9)
- b: $f(x)$ opens: a) up b) down c) left d) right
- c: $f(x)$ is: a) fat b) skinny c) normal
- d: domain is \mathbb{R} e: x-intercepts $\{-4 \pm \sqrt{3}\}$
- f: axis of symmetry $x = -4$
- g: the vertex is a a) maximum b) minimum c) neither
- h: the range is $(-\infty, 9]$ i: y-intercept (0, -39)

3) Given: $f(x) = -4x^2 - 12x + 7$

- a: Vertex = (-3/2, 16)
- b: $f(x)$ opens: a) up b) down c) left d) right
- c: $f(x)$ is: a) fat b) skinny c) normal
- d: domain is \mathbb{R} e: x-intercepts $\{1/2, -7/2\}$
- f: axis of symmetry $x = -3/2$
- g: the vertex is a a) maximum b) minimum c) neither
- h: the range is $(-\infty, 16]$ i: y-intercept (0, 7)

4) Given: $f(x) = x^2 + 2x - 6$

- a: Vertex = (-1, -7)
- b: $f(x)$ opens: a) up b) down c) left d) right
- c: $f(x)$ is: a) fat b) skinny c) normal
- d: domain is \mathbb{R} e: x-intercepts $\{-1 \pm \sqrt{7}\}$
- f: axis of symmetry $x = -1$
- g: the vertex is a a) maximum b) minimum c) neither
- h: the range is $[-7, \infty)$ i: y-intercept (0, -6)