

$$y - 7 = \frac{1}{2}(x + 3)^2$$

a) parabolic

b) up

c) $(-3, 7)$

d) y-int: $x = 0$

$$y - 7 = \frac{1}{2}(0 + 3)^2$$

$$y - 7 = \frac{1}{2}(3)^2$$

$$y - 7 = \frac{1}{2}(9) = 4.5$$

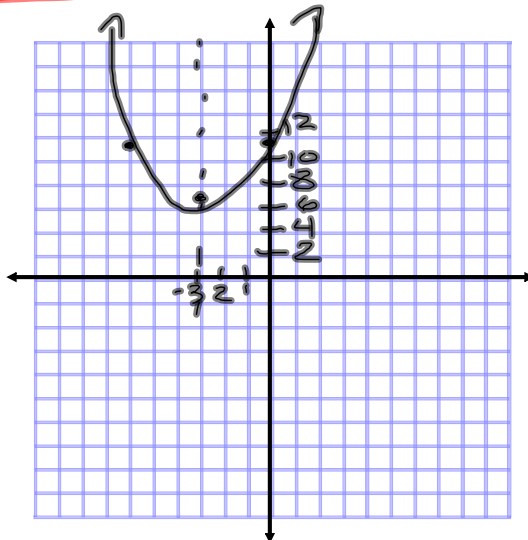
$$y = 11.5$$

$$e) y - 7 = \frac{1}{2}(x + 3)^2$$

$$y = 7 + \frac{1}{2}(x + 3)^2$$

no x-int

f)



$$2. f(x) = -\underline{3}x^2 + 5x - 8$$

a) Quadratic

b) Down

$$c) D = b^2 - 4ac$$

$$D = 5^2 - 4(-3)(-8) \\ = 25 - 96 = -71$$

$$3. y + 2x = -x^2 + 5$$

$$a) \boxed{y = -x^2 - 2x + 5}$$

$$b) 0 = -x^2 - 2x + 5$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$x = \frac{2 \pm \sqrt{4 - 4(-1)(5)}}{2(-1)} = \frac{2 \pm \sqrt{4+20}}{-2}$$

$$x = \frac{2 \pm \sqrt{24}}{-2} \left(\begin{array}{l} 12 \cdot 2 \\ 6 \cdot 2 \end{array} \right)$$

$$x = \frac{2 \pm 2\sqrt{6}}{-2}$$

$$\boxed{x = -1 \pm \sqrt{6}}$$

c)