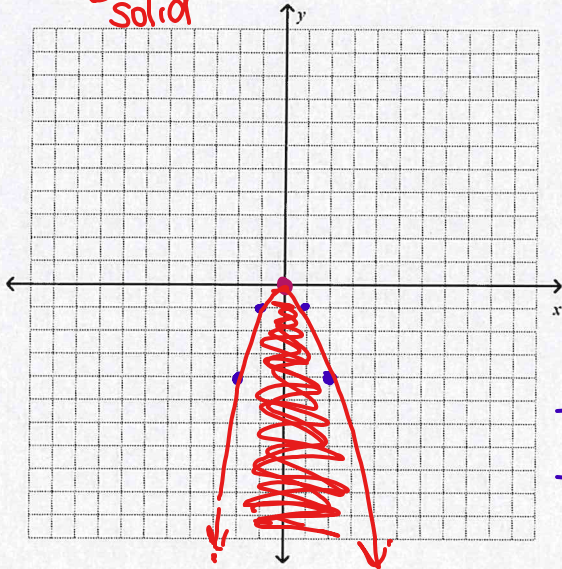


Algebra 2 CP: Page 303 #18-26 EVEN

#18.) $y \leq -x^2$ standard form
 Solid



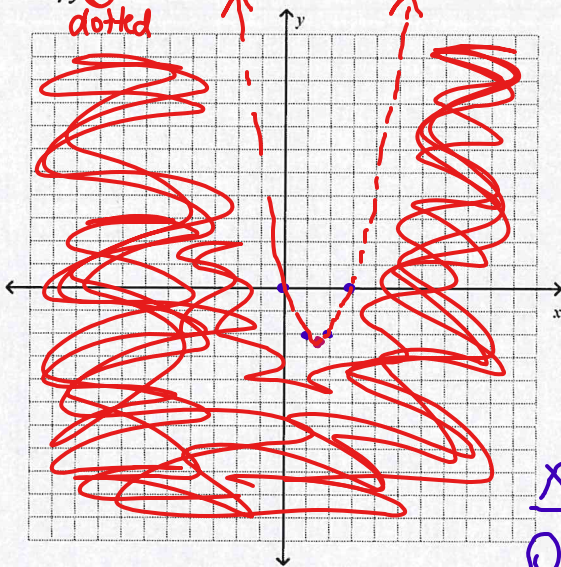
$$x = \frac{-b}{2a} = \frac{0}{2(-1)} = 0$$

$$y = -x^2 = -(0)^2 = 0$$

vertex: (0, 0)

x	y = -x ²
-2	-(-2) ² = -4
-1	-(-1) ² = -1
0	0
1	-(1) ² = -1
2	-(2) ² = -4

#20.) $y < x^2 - 3x$
 dotted



$$x = \frac{-b}{2a} = \frac{-(-3)}{2(1)} = \frac{3}{2}$$

$$y = x^2 - 3x = \left(\frac{3}{2}\right)^2 - 3\left(\frac{3}{2}\right)$$

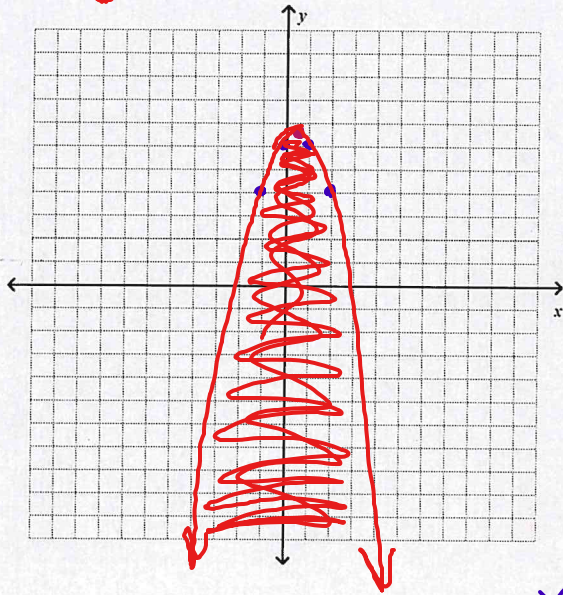
$$= \frac{9}{4} - \frac{9 \cdot 2}{2 \cdot 2} = \frac{9}{4} - \frac{18}{4} = \frac{-9}{4}$$

vertex: $\left(\frac{3}{2}, \frac{-9}{4}\right) = \left(1\frac{1}{2}, -2\frac{1}{4}\right)$

x	y = x ² - 3x
0	(0) ² - 3(0) = 0 - 0 = 0
1	(1) ² - 3(1) = 1 - 3 = -2
1½	-2¼
2	(2) ² - 3(2) = 4 - 6 = -2
3	(3) ² - 3(3) = 9 - 9 = 0

Solid

#22.) $y \leq -x^2 + x + 6$



$$x = \frac{-b}{2a} = \frac{-1}{2(-1)} = \frac{-1}{-2} = \frac{1}{2}$$

$$y = -x^2 + x + 6$$

$$= -\left(\frac{1}{2}\right)^2 + \frac{1}{2} + \frac{6}{1}$$

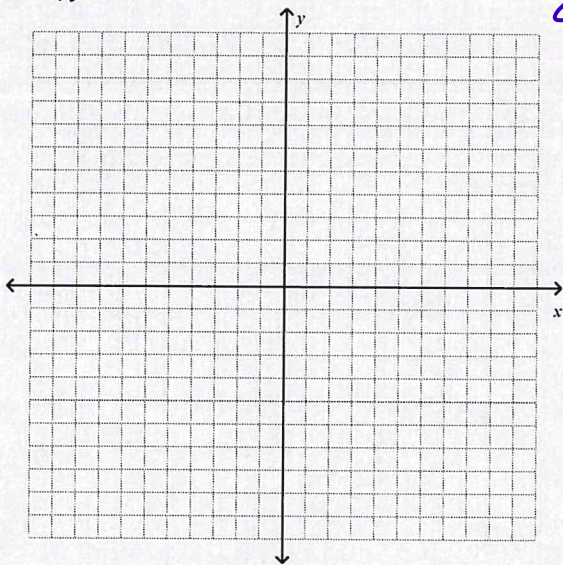
$$= -\frac{1}{4} + \frac{1 \cdot 2}{2 \cdot 2} + \frac{6 \cdot 4}{1 \cdot 4}$$

$$= -\frac{1}{4} + \frac{2}{4} + \frac{24}{4} = \frac{25}{4}$$

$$\text{Vertex: } \left(\frac{1}{2}, \frac{25}{4}\right) = \left(\frac{1}{2}, 6\frac{1}{4}\right)$$

x	$-x^2 + x + 6$
-1	$-(-1)^2 - 1 + 6 = -1 - 1 + 6 = 4$
0	$-(0)^2 + 0 + 6 = 0 + 0 + 6 = 6$
$\frac{1}{2}$	$6\frac{1}{4}$
1	$-(1)^2 + 1 + 6 = -1 + 1 + 6 = 6$
2	$-(2)^2 + 2 + 6 = -4 + 2 + 6 = 4$

#24.) $y \geq -2x^2 - x + 3$



#26.) $y < -\frac{1}{2}x^2 - 2x + 4$

