

section 3.6

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$$10) f(x) = -3|x-2|-1$$

$$y\text{-int: } y = f(0) = -3|(0)-2|-1 = -3|-2|-1 = -3(2)-1 = -6-1 = \underline{\underline{-7}}$$

$$x\text{-int: } 0 = f(x) = -3|x-2|-1$$

$$0 = -3\{+(x-2)\} - 1$$

$$0 = -3\{x-2\} - 1$$

$$0 = -3x + 6 - 1$$

$$0 = -3x + 5$$

$$3x = 5$$

$$\underline{\underline{x = \frac{5}{3}}}$$

$$0 = -3\{-(x-2)\} - 1$$

$$0 = -3\{-x+2\} - 1$$

$$0 = 3x - 6 - 1$$

$$0 = 3x - 7$$

$$7 = 3x$$

$$\underline{\underline{\frac{7}{3} = x}}$$

$$12) f(x) = -5|x+2|+15$$

$$y\text{-int: } y = f(0) = -5|(0)+2|+15 = -5|2|+15 = -5(2)+15 = -10+15 = \underline{\underline{5}}$$

$$x\text{-int: } 0 = f(x) = -5|x+2|+15$$

$$0 = -5\{+(x+2)\} + 15$$

$$0 = -5\{x+2\} + 15$$

$$0 = -5x - 10 + 15$$

$$0 = -5x + 5$$

$$5x = 5$$

$$\underline{\underline{x = 1}}$$

$$0 = -5\{-(x+2)\} + 15$$

$$0 = -5\{-x-2\} + 15$$

$$0 = 5x + 10 + 15$$

$$0 = 5x + 25$$

$$-25 = 5x$$

$$\underline{\underline{-5 = x}}$$

$$14) f(x) = |-2x+1|-13$$

$$y\text{-int: } y = f(0) = |-2(0)+1|-13 = |1|-13 = 1-13 = \underline{\underline{-12}}$$

$$x\text{-int: } 0 = f(x) = |-2x+1|-13$$

$$0 = +(-2x+1)-13$$

$$0 = -2x+1-13$$

$$0 = -2x-12$$

$$2x = -12$$

$$x = \underline{\underline{-6}}$$

$$0 = -(-2x+1)-13$$

$$0 = 2x-1-13$$

$$0 = 2x-14$$

$$14 = 2x$$

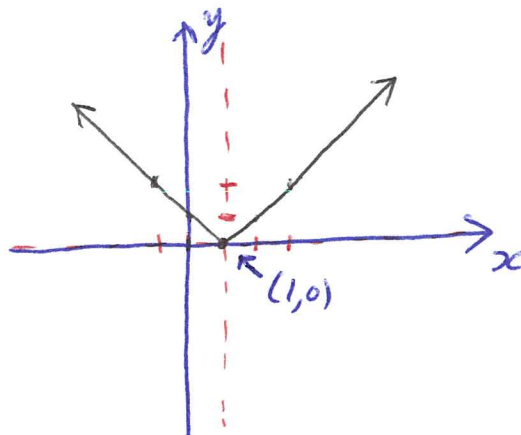
$$\underline{\underline{7}} = x$$

$$16) y = |x-1| = |x-(1)| + (0)$$

$$h = +1 \quad k = 0$$

like $y = |x|$

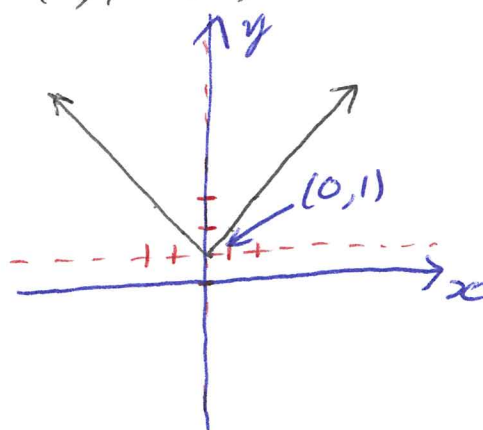
x	y
2	2
1	1
0	0
-1	1
-2	2



$$18) y = |x| + 1 = |x-(0)| + (1)$$

$$h = 0 \quad k = +1$$

like $y = |x|$

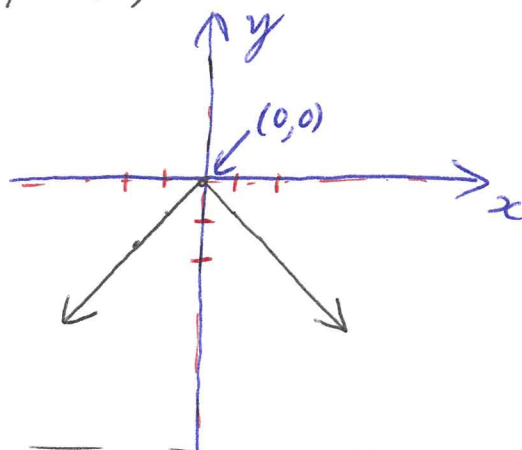


$$20) y = -|x| = -|x - (0)| + (0)$$

$$h = 0 \quad k = 0$$

like $y = -|x|$

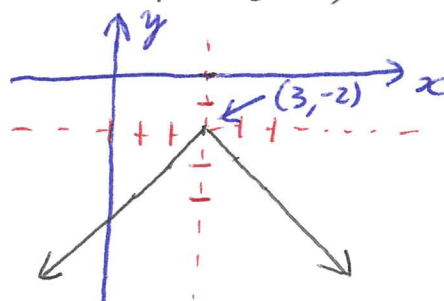
x	y
2	-2
1	-1
0	0
-1	-1
-2	-2



$$22) y = -|x - 3| - 2 = -|x - (3)| + (-2)$$

$$h = +3 \quad k = -2$$

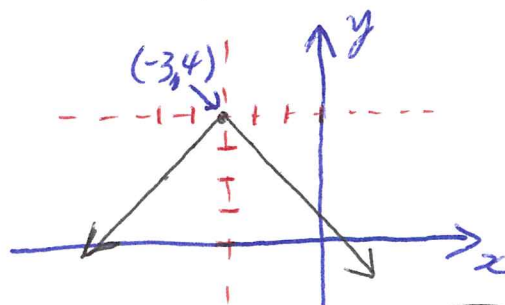
like $y = -|x|$



$$24) f(x) = -|x + 3| + 4 = -|x - (-3)| + (4)$$

$$h = -3 \quad k = +4$$

like $y = -|x|$

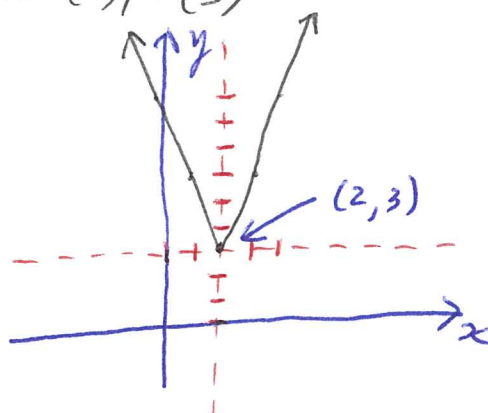


$$26) f(x) = 3|x - 2| + 3 = 3|x - (2)| + (3)$$

$$h = +2 \quad k = +3$$

like $y = 3|x|$

x	y
2	6
1	3
0	0
-1	3
-2	6



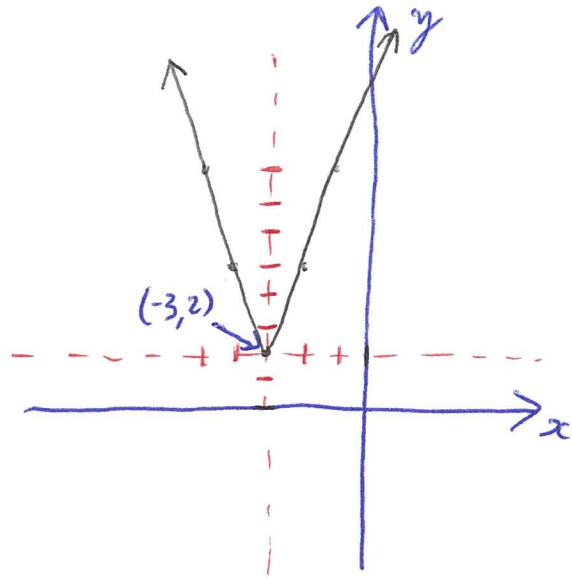
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$$28) f(x) = |3x+9|+2 = |3(x+3)|+2 = |3(x-(-3))|+(2)$$

$$h = -3 \quad k = +2$$

like $y = |3x|$

x	y
2	6
1	3
0	0
-1	3
-2	6



$$30) f(x) = -|x+4|-3 = -|x-(-4)|+(-3)$$

$$h = -4 \quad k = -3$$

like $y = -|x|$

