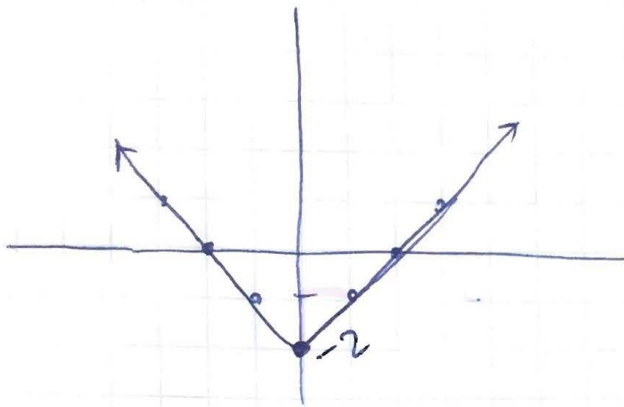
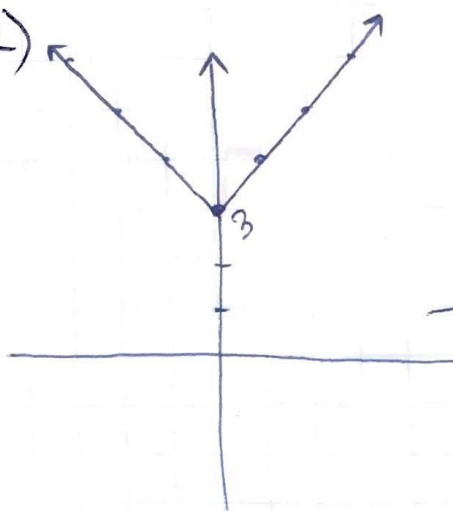


2-7 PRACTICE

1) $y = |x| - 2$



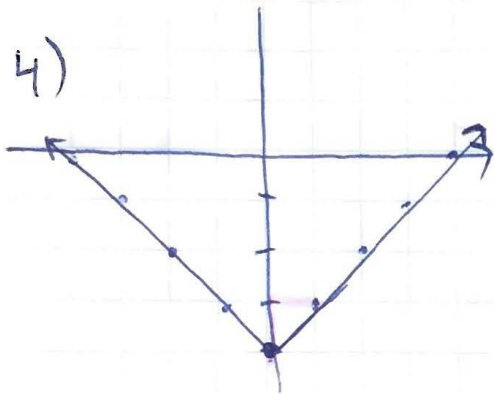
2)



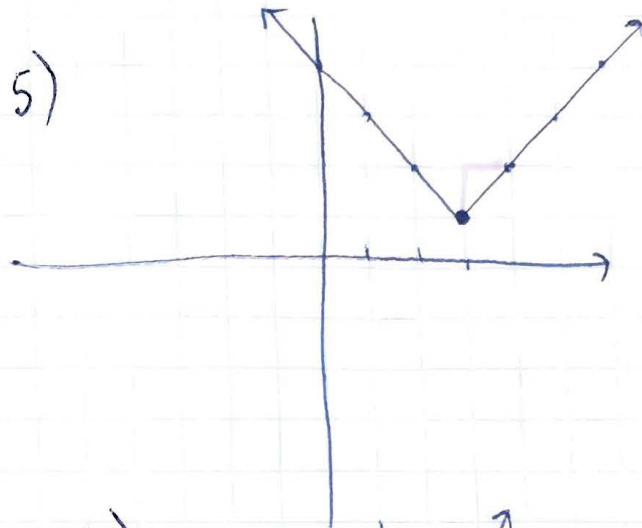
3)



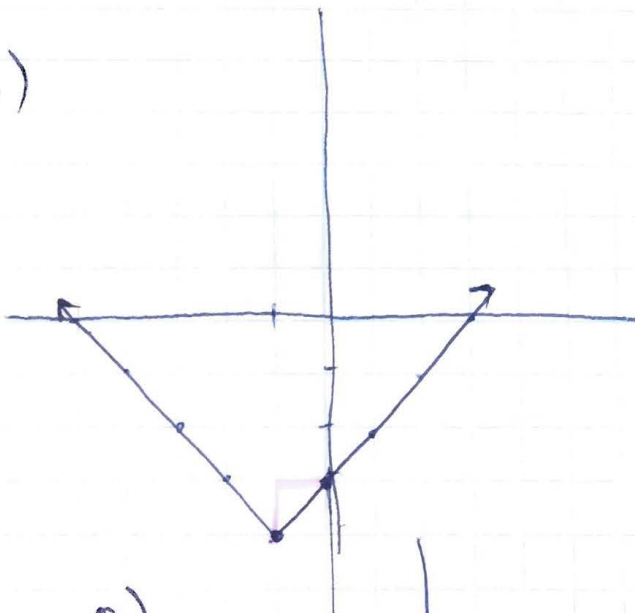
4)



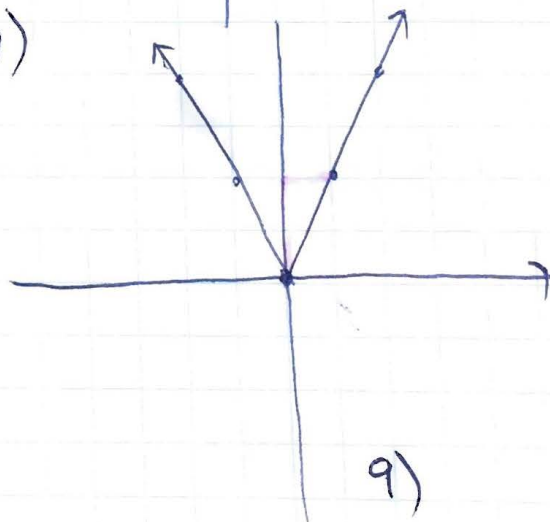
5)



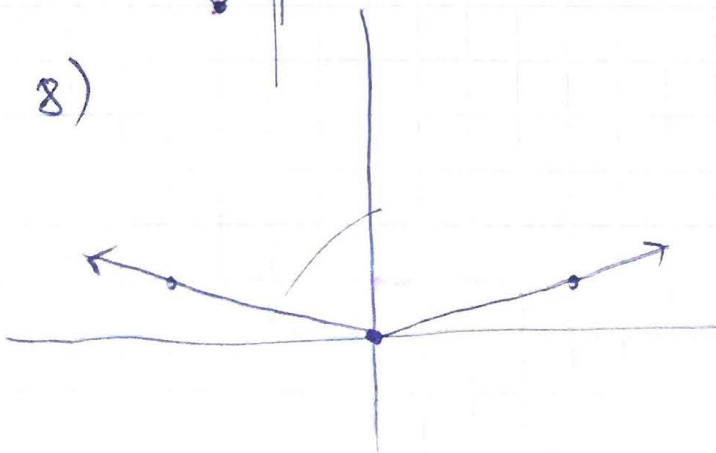
6)



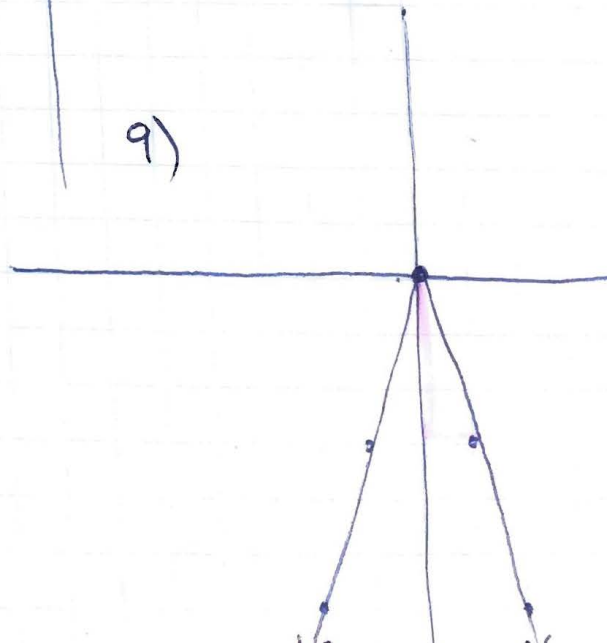
7)



8)

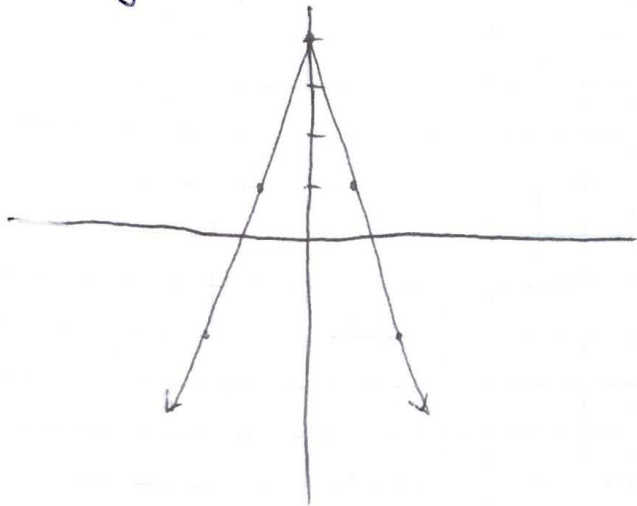


9)



10) $y = |x-4|$
 vertex $(4,0)$
 axis of symmetry $x=4$
 Transformation: right 4

12) $y = -|3x| + 4$

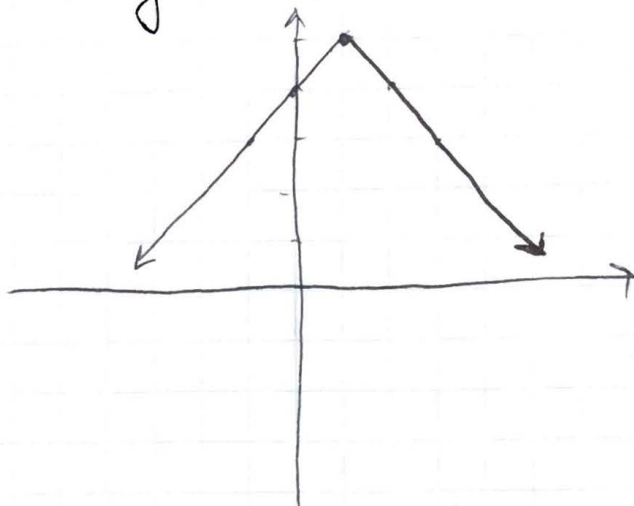


11) $y = -3|x| - 2$

vertex $(0,-2)$
 axis of symmetry $x=0$
 Transformation:

DOWN 2, REFLECTION OVER X-AXIS
 Stretch By 3

13) $y = 5 - |x-1|$



14) vertex $(4,5)$

X-int (plug in 0 for y)

$$0 = -|x-4| + 5$$

$$-5 = -|x-4|$$

$$5 = |x-4|$$

$$\begin{matrix} x-4=5 \\ +4 \quad +4 \end{matrix} \quad \text{OR} \quad \begin{matrix} x-4=-5 \\ +4 \quad +4 \end{matrix}$$

$$\boxed{x=9} \\ (9,0)$$

OR

$$\boxed{x=-1} \\ (-1,0)$$

y-int (plug in 0 for x)

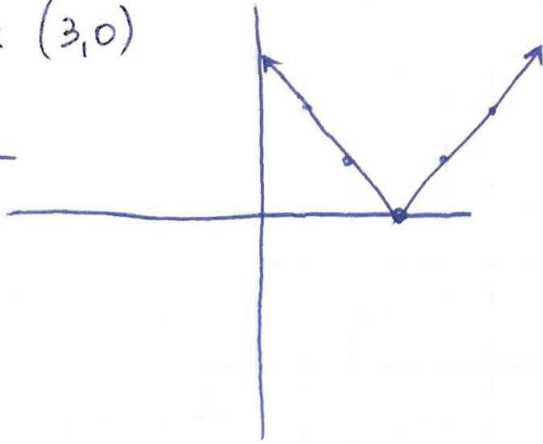
$$y = -|0-4| + 5$$

$$= -|-4| + 5$$

$$-4 + 5 = \boxed{1} \quad (0,1)$$

$$15) y = |3-x|$$

vertex (3,0)

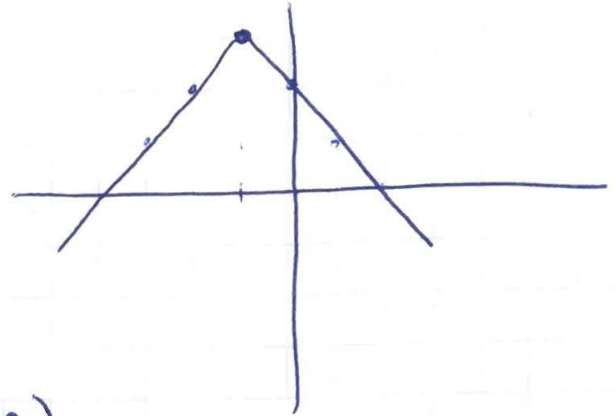


X	Y
3	0
2	1
4	1
5	2
1	2

$$16) y = 3 - |x+1|$$

OR $y = -|x+1| + 3$

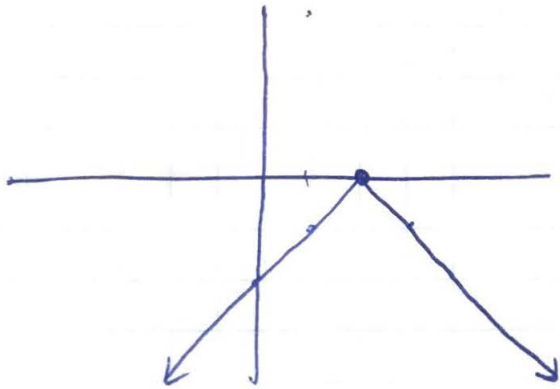
vertex (-1, 3)



$$17) y = -|-x-2|$$

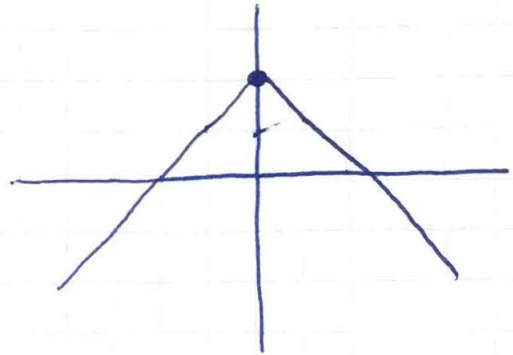
$$y = -|-(x+2)|$$

$$= -|x+2|$$

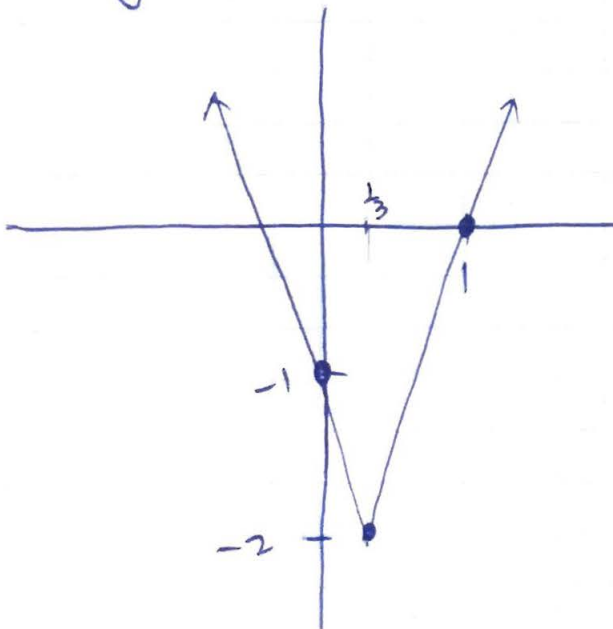


18)

$$y = -|x| + 2$$



$$19) y = |3x-1| - 2$$

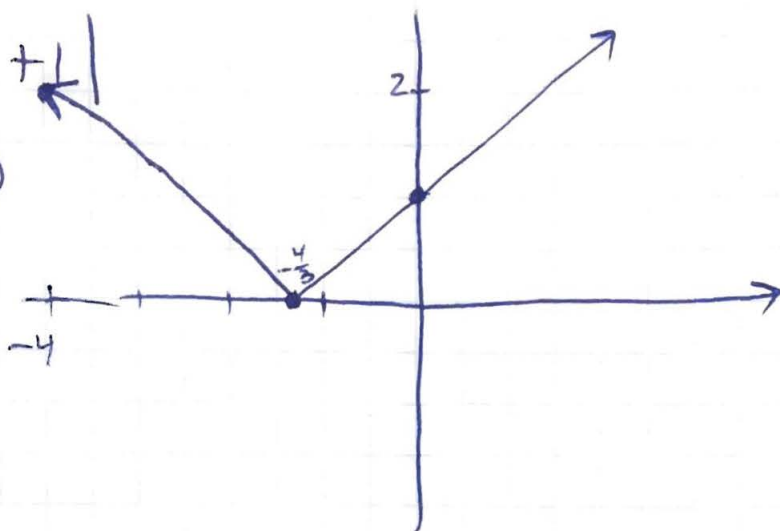


X	Y
vertex $\frac{1}{3}$	-2
1	0
0	-1

20) $y = \left| \frac{3}{4}x + 1 \right|$

vertex $\left(-\frac{4}{3}, 0\right)$

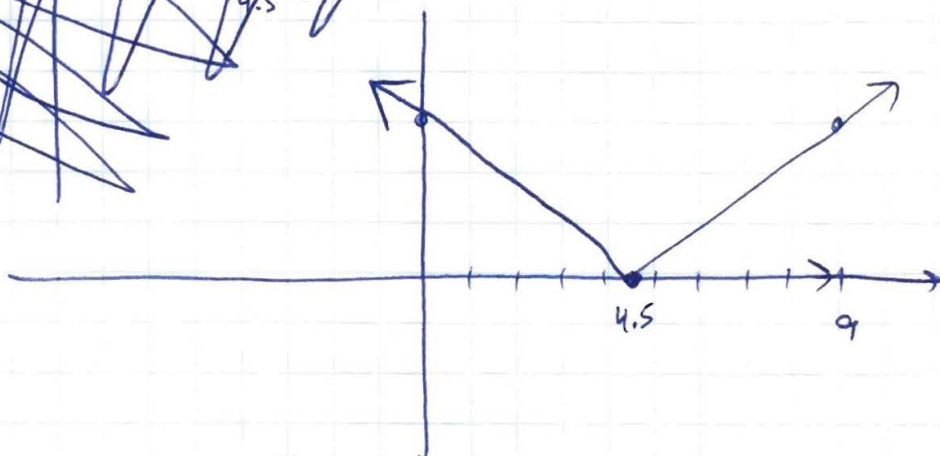
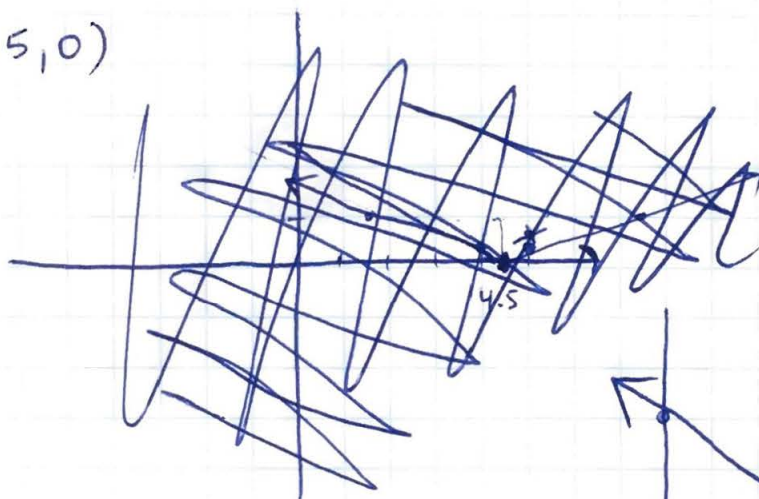
x	y
$-\frac{4}{3}$	0
-4	2
0	1



21) $y = \frac{1}{3} |2x - 9|$

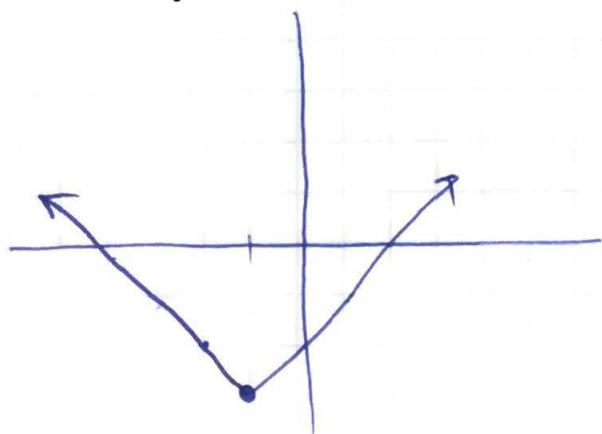
vertex $(4.5, 0)$

x	y
4.5	0
5	$\frac{1}{3}$
4	$\frac{1}{3}$
0	3
9	3



22) $y = |x+1| - 3$

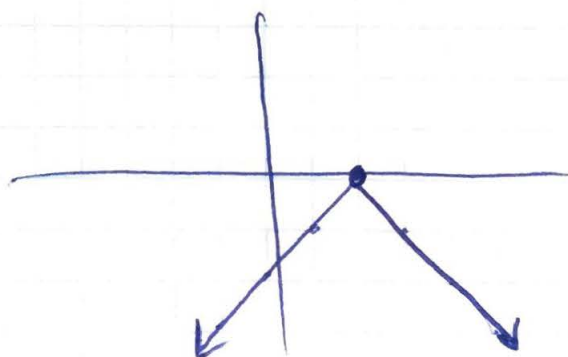
vertex $(-1, -3)$



23) $y = -\frac{1}{2} |2x - 4|$

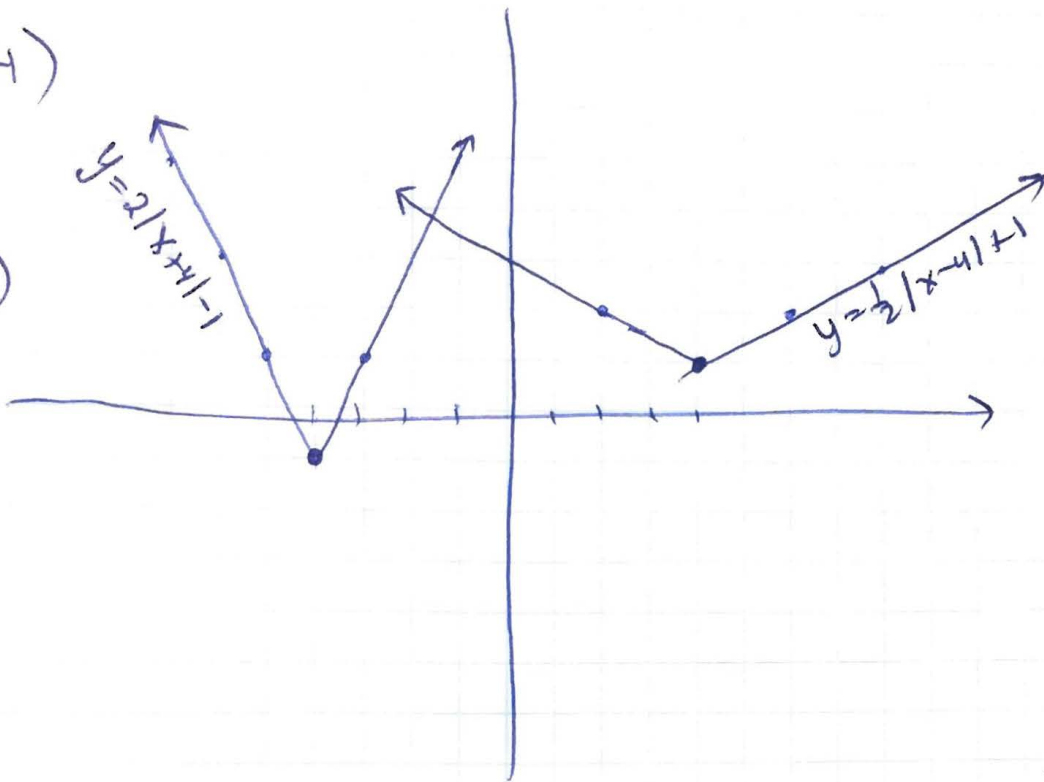
OR $-\frac{1}{2} \cdot 2 |x - 2|$

OR $-|x - 2|$



24)

a)



b) both graphs face upwards

first graph has vertex $(-4, -1)$, "slope" $\frac{2}{1}$

second one has vertex $(4, 1)$, "slope" $\frac{1}{2}$