4.3 B Worksheets

Kuta Software - Infinite Algebra 1

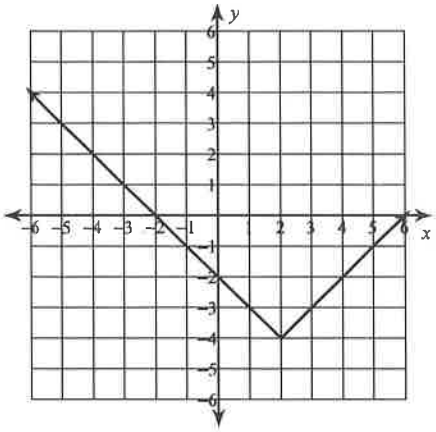
Name KEY

Graphing Absolute Value Functions

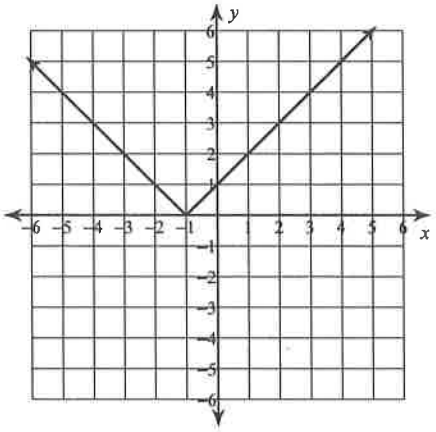
Date _____ Period ____

Graph each equation.

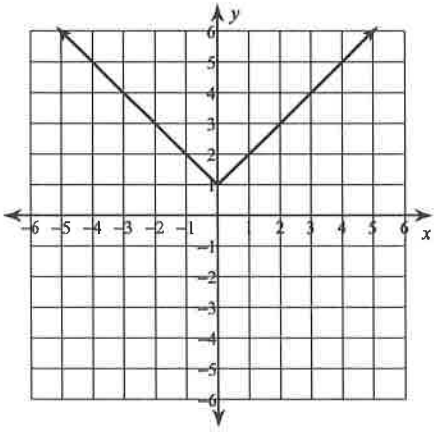
1) $y = |x - 2| - 4$



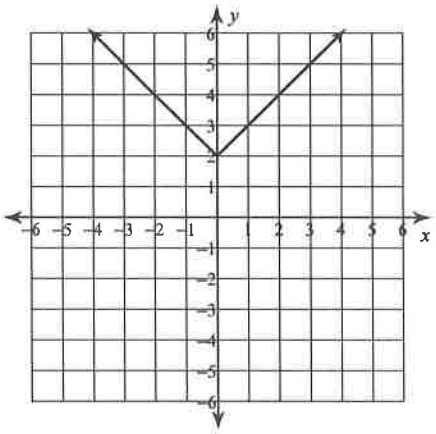
2) $y = |x + 1|$



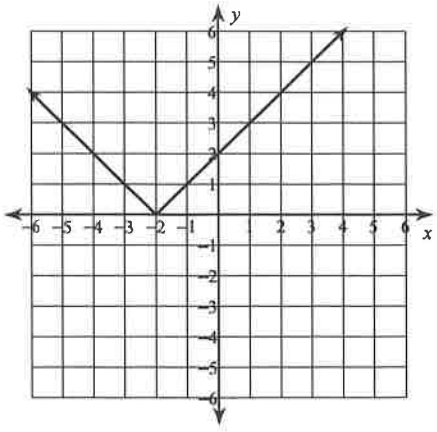
3) $y = |x| + 1$



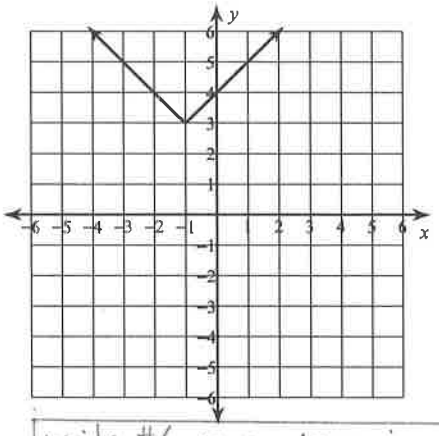
4) $y = |x| + 2$



5) $y = |x + 2|$



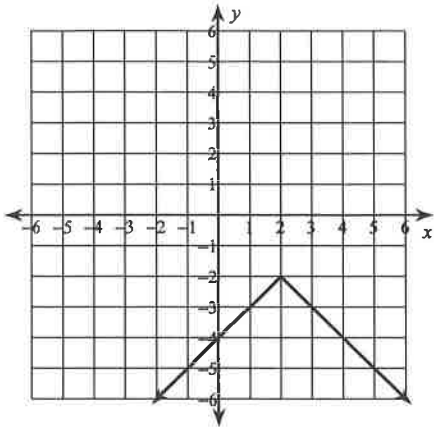
6) $y = |x + 1| + 3$



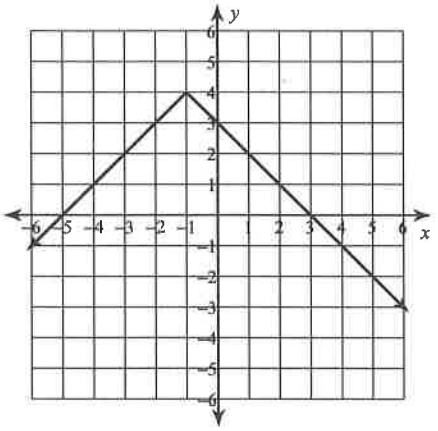
write #6 as a piecewise function:

$$y = \begin{cases} x + 4 & \text{when } x \geq -1 \\ -x + 2 & \text{when } x < -1 \end{cases}$$

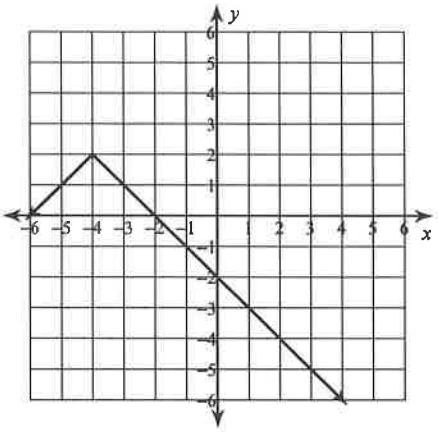
7) $y = -|x - 2| - 2$



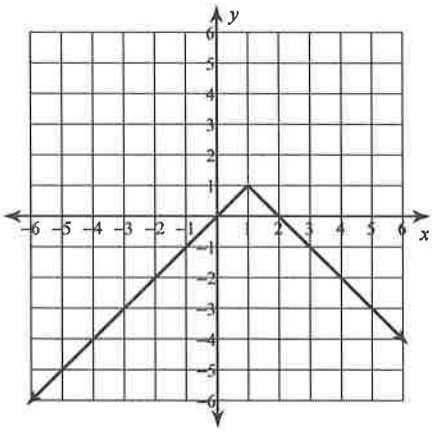
8) $y = -|x + 1| + 4$



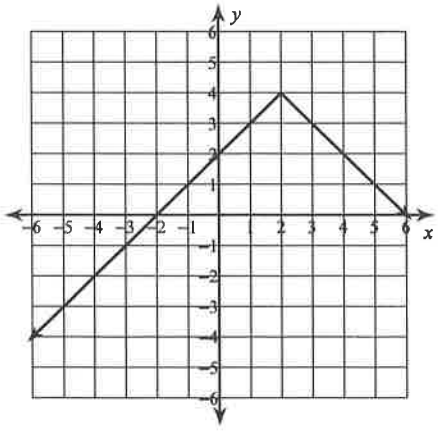
9) $y = -|x + 4| + 2$



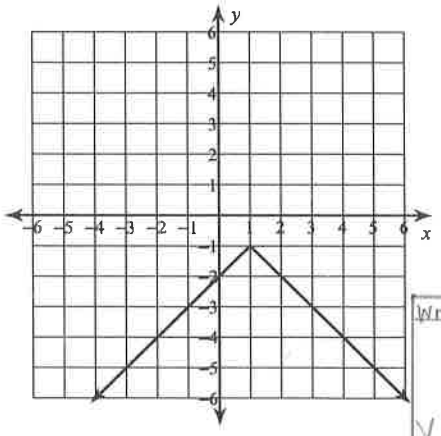
10) $y = -|x - 1| + 1$



11) $y = -|x - 2| + 4$



12) $y = -|x - 1| - 1$



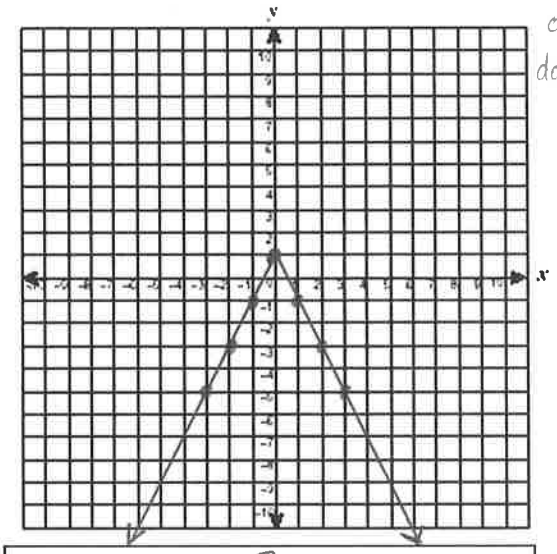
Write #12 as a piecewise funct

$$y = \begin{cases} -x \text{ when } x \geq 1 \\ x - 2 \text{ when } x < 1 \end{cases}$$

4.3B Worksheet - Graphing Absolute Value Equations

For each absolute value function, graph the function and give the domain and range:

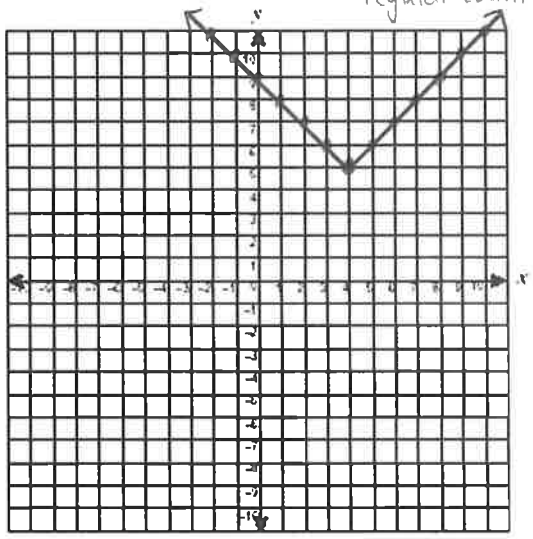
13) $y = -2|x| + 1$ vertex $(0, 1)$



Domain: $x \in \mathbb{R}$

Range: $y \leq 1$

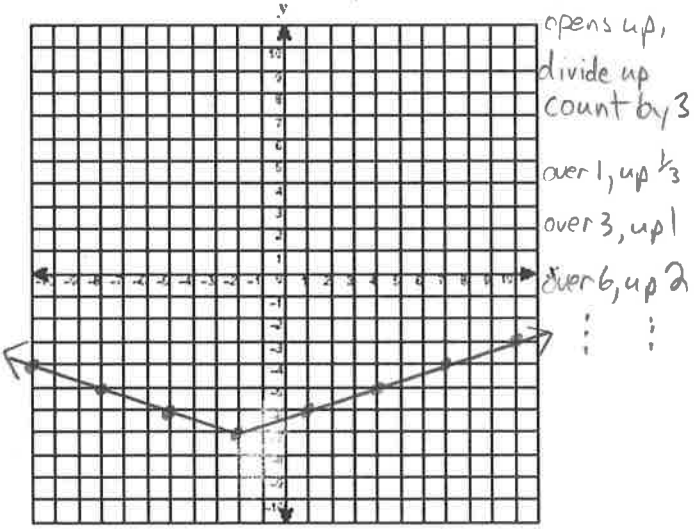
14) $y = |x - 4| + 5$ vertex $(4, 5)$ regular count



Domain: $x \in \mathbb{R}$

Range: $y \geq 5$

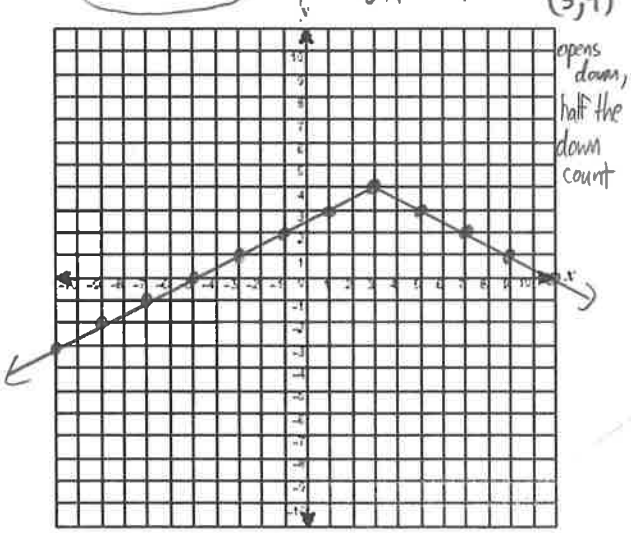
15) $y = \frac{1}{3}|x + 2| - 7$ vertex $(-2, -7)$



Domain: $x \in \mathbb{R}$

Range: $y \geq -7$

16) $y = 4 - \frac{1}{2}|x - 3|$ $y = -\frac{1}{2}|x-3| + 4$ vertex $(3, 4)$



Domain: $x \in \mathbb{R}$

Range: $y \leq 4$

write #16 as a piecewise function:

$$y = \begin{cases} -\frac{1}{2}x + 5.5 \text{ when } x \geq 3 \\ \frac{1}{2}x + 2.5 \text{ when } x < 3 \end{cases}$$