

Functions in Algebra 1:

Linear Functions:

$$\text{EQ: } y = mx + b$$

Graph: Line

Absolute Value Functions:

$$\text{EQ: } y = a|x - h| + k$$

Graph: V-Shape

Quadratic Functions:

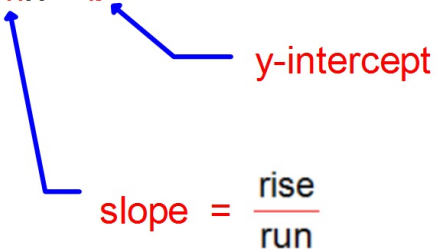
$$\begin{aligned} \text{EQ: } y &= ax^2 + bx + c \\ \text{or} \\ y &= a(x - h)^2 + k \end{aligned}$$

Graph: Parabola

Graphing Linear Functions.

Slope-Intercept Form:

$$y = mx + b$$



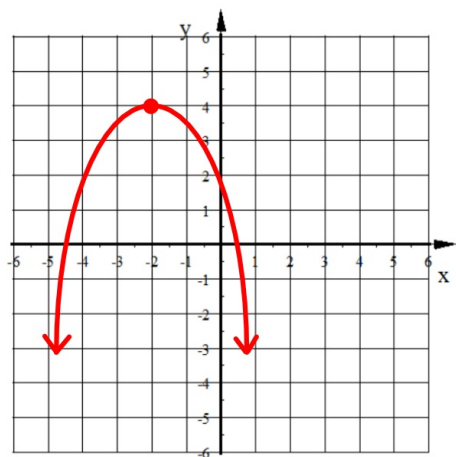
slope = $\frac{\text{rise}}{\text{run}}$

y-intercept

Steps to graph this eq:

1. Plot the y-int.
2. Use the slope to find more points.

1.



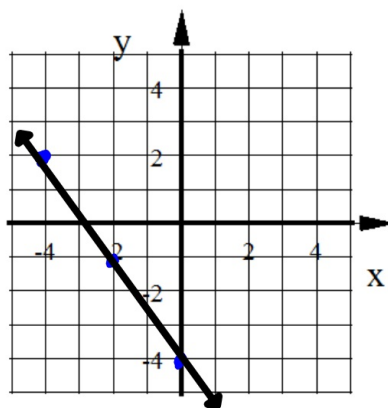
Domain:

$\mathbb{R}$

Range:

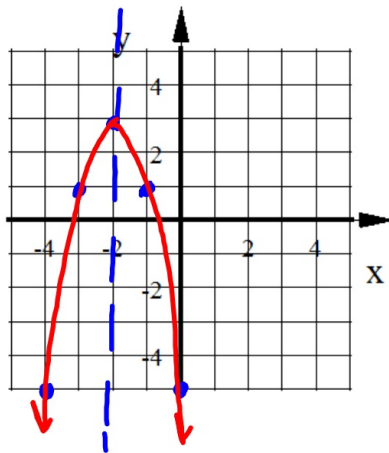
$y \leq 4$ $(-\infty, 4]$

2. $y = -\frac{3}{2}x - 4$



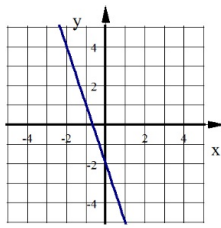
3. $y = -2x^2 - 8x - 5$

x	y
0	-5
-1	1
-2	3
-3	1
-4	-5

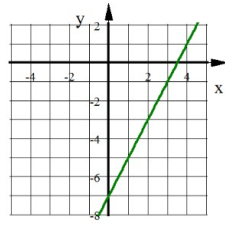


Answers to Hwk # 30

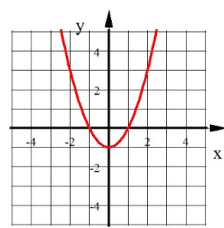
6. $f(x) = -3x - 2$



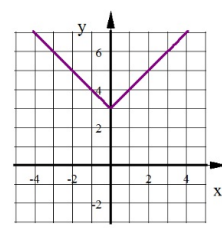
7. $y = 2x - 7$



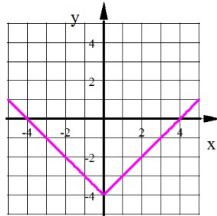
18. $f(x) = x^2 - 1$



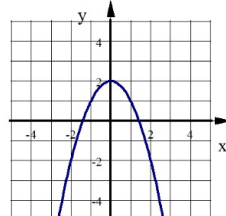
19. $f(x) = |x| + 3$



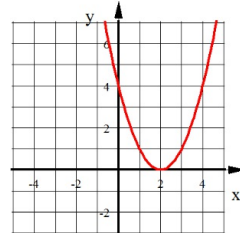
21. $y = |x| - 4$



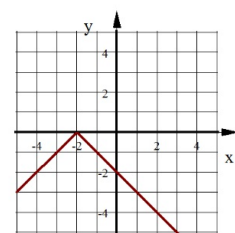
23. $f(x) = -x^2 + 2$



27. $y = x^2 - 4x + 4$

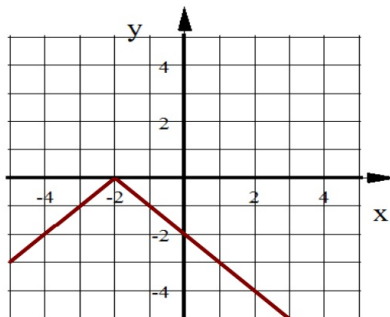
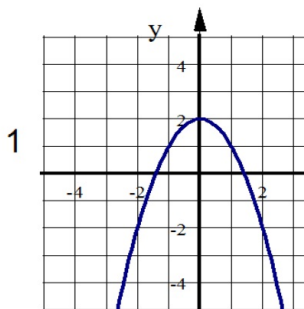


37. $f(x) = -|x + 2|$

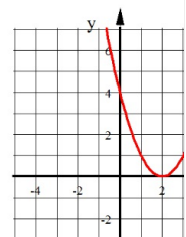
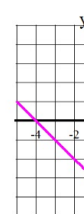
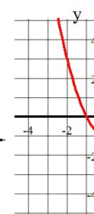


23. $f(x) = -x^2 + 2$

37. $f(x) = -|x + 2|$



18. $f(x)$ 21. $y = |x|$ 27. $y = x^2 - 4x + 4$

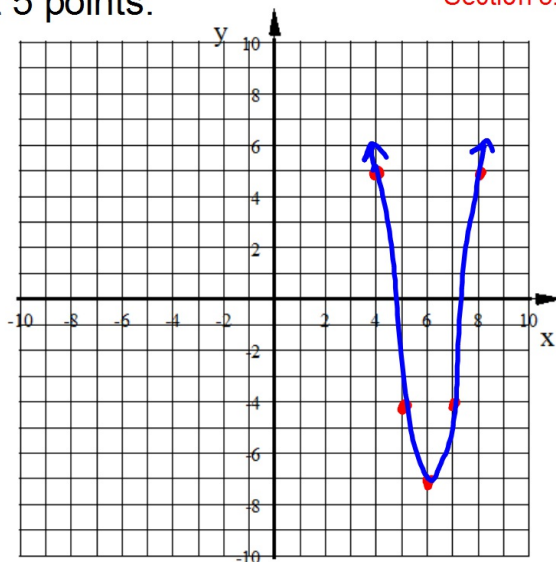


Graph this function, use at least 5 points.

Section 5.3 Cont...

$$y = 3(x - 6)^2 - 7$$

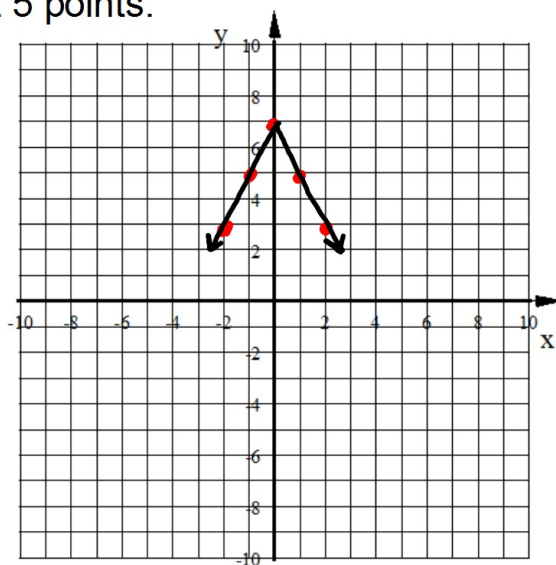
X	y
4	5
5	-4
6	-7
7	-4
8	5



Graph this function, use at least 5 points.

$$f(x) = -2|x| + 7$$

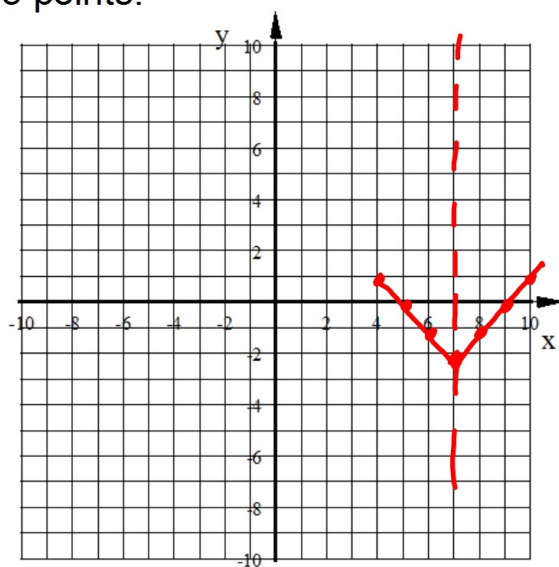
X	y
-2	5
-1	5
0	7
1	5
2	3



Graph this function, use at least 5 points.

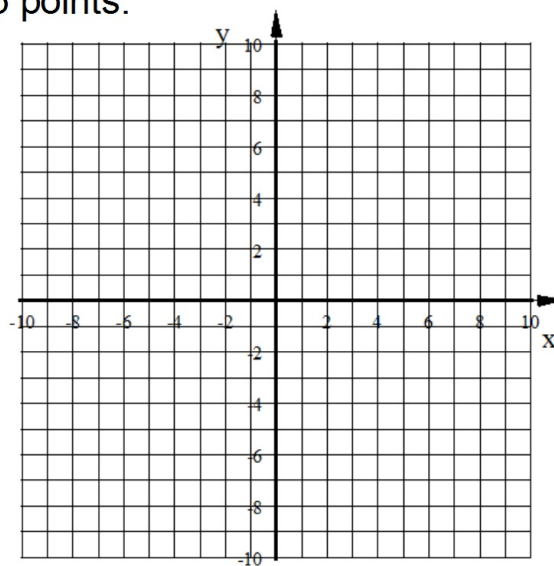
$$y = |x - 4| - 5$$

x	y
7	-2
8	-1
9	0
10	1
11	2



Graph this function, use at least 5 points.

$$y = \frac{1}{2}|x + 1| + 3$$



$$y = -3|x - 3| + 8$$

x	y
1	2
2	5
3	8
4	5
5	2

