

options

- 1) can graph full line then erase whats not included  
 2) instead of starting at y-intercept (x=0) to graph start @ any x-value

1. Graph the following functions:

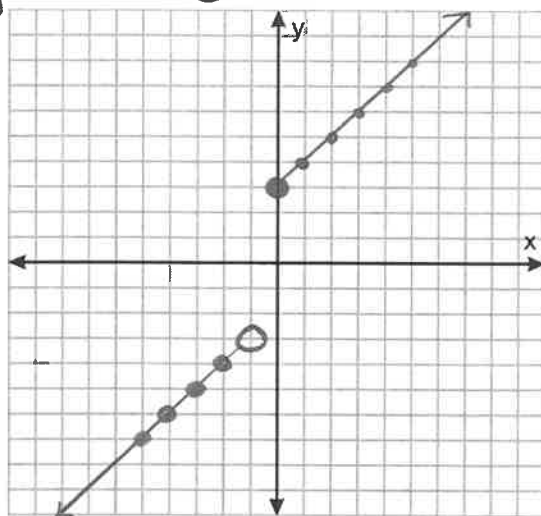
3) make a table of values

x | y

$$f(x) = \begin{cases} x - 2 & \text{if } x < -1 \\ x + 3 & \text{if } x \geq -1 \end{cases}$$

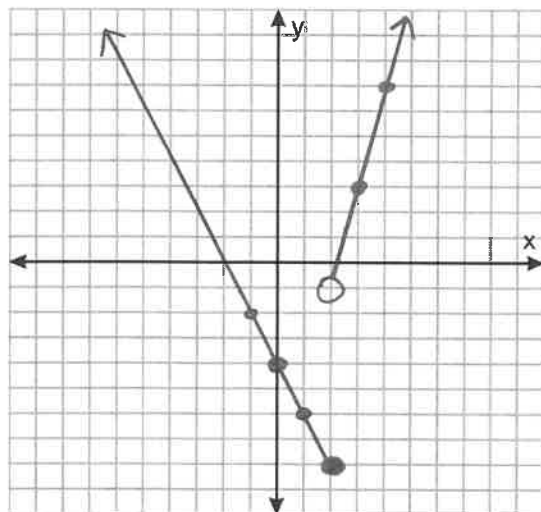
open circle  $\neq$

closed circle  $=$



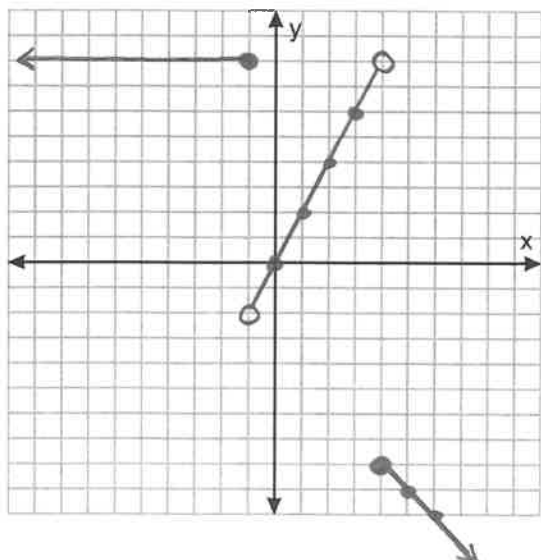
b.

$$f(x) = \begin{cases} -2x - 4 & \text{if } x \leq 2 \\ 4x - 9 & \text{if } x > 2 \end{cases}$$



c.

$$f(x) = \begin{cases} 8 & \text{if } x \leq -1 \\ 2x & \text{if } -1 < x < 4 \\ -4 - x & \text{if } x \geq 4 \end{cases}$$



2.6 Special Functions  
Honors Algebra 2

2. Evaluate the following

$$f(x) = \begin{cases} x+5 & \text{if } x < -2 \\ -4 & \text{if } x \geq -2 \end{cases}$$

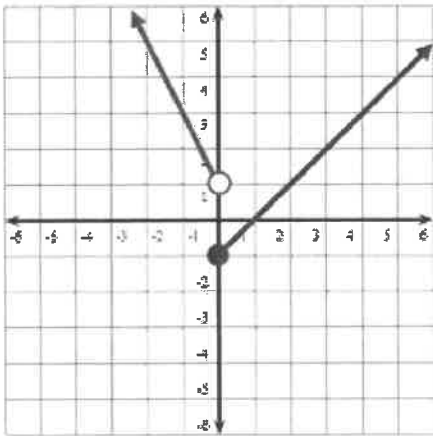
$$f(3) = -4$$

$$f(-4) = -4 + 5$$

$$f(-2) = -4$$

$$= 1$$

3.  $f(x)$  is graphed below. Evaluate the following:



$$f(-2) = 5$$

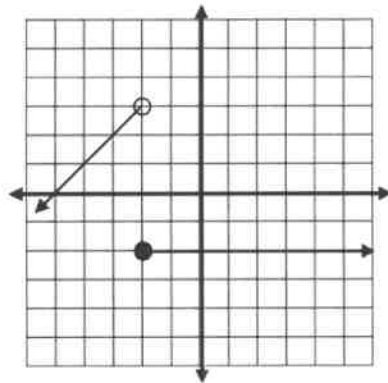
\*when  $x = -2$  what does  $y$  equal?

$$f(0) = -1$$

$$f(3) = 2$$

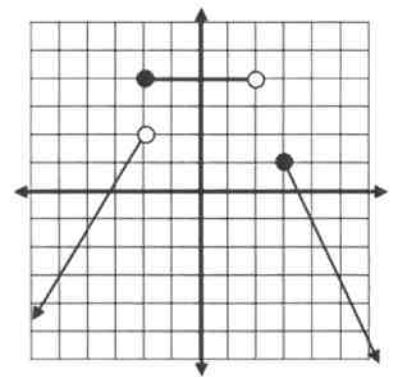
4. Write equations for the following piecewise functions:

a.



$$f(x) = \begin{cases} x+5, & x < -2 \\ 2, & x \geq -2 \end{cases}$$

b.



$$f(x) = \begin{cases} 2x + 6, & x < -2 \\ 4, & -2 \leq x < 2 \\ -2x + 7, & x \geq 3 \end{cases}$$

\*to find  $y$ -intercept extend graph and see where crosses  $y$ -axis or solve algebraically  
ex)  $y = x + b$   $(-3, 2)$   
 $2 = -3 + b \rightarrow b = 5$   $y = x + 5$