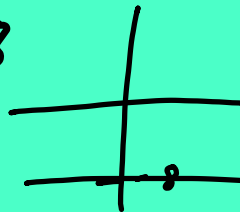
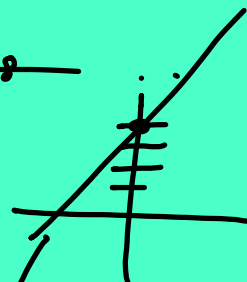


yds fds  
47,000  
Use table

$$f(x) = -8$$



$$f(x) = 2x + 4$$



$$f(x) = |x|$$



$$f(x) = \lfloor x \rfloor$$



$$y < -3|x-5| - 2$$

↑ Right 5  
↑ Down 2

$y <$  below

$y >$  above

8/  $3x - 2y \leq 12$

$$\begin{array}{r|l} 4 & 0 \\ 0 & -6 \end{array}$$

$$\begin{aligned} 0 - 0 &\leq 12 \\ 0 &\leq 12 \\ \text{True} \end{aligned}$$

x

y

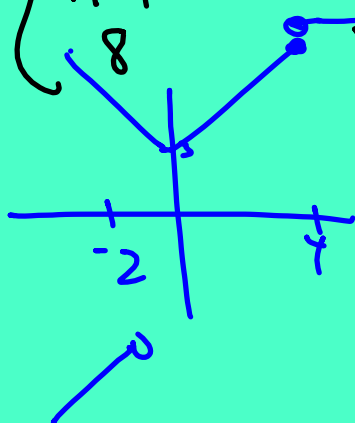
x

y

# LINEAR FUNCTIONS

## Piecewise functions

$$f(x) = \begin{cases} 2x-5 & x < -2 \leftarrow -7 \\ 4|x|+3 & -2 \leq x \leq 4 \leftarrow 3 \\ 8 & x > 4 \leftarrow 10 \end{cases}$$



$$\begin{aligned} f(3) &= 4|3| + 3 \\ &= 12 + 3 \\ &= \boxed{15} \end{aligned}$$

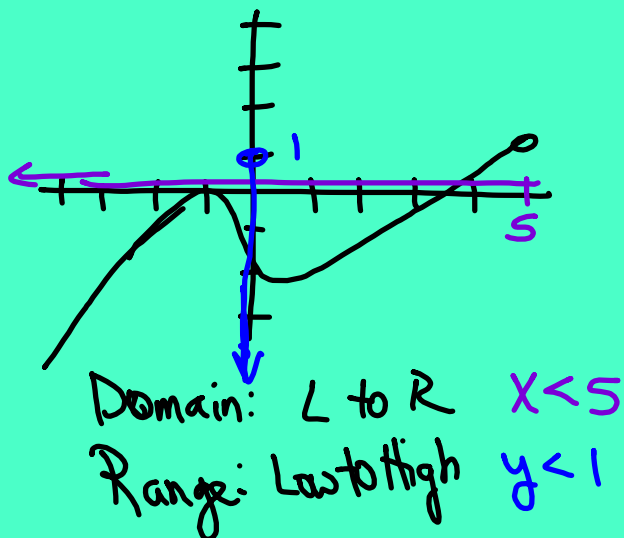
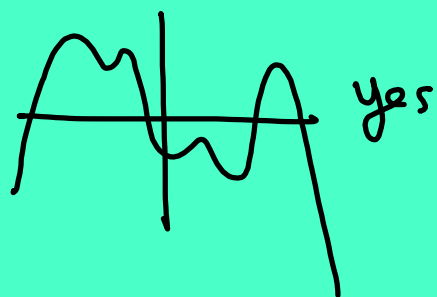
$$f(10) = 8$$

$$\begin{aligned} f(-7) &= 2(-7) - 5 \\ &= -14 - 5 \\ &= \boxed{-19} \end{aligned}$$

Domain = set of x-words  
 Range = set of y-words

$$f(x) = \{(\underline{5}, 3)(8, -7)(4, 2)(\underline{5}, -1)(6, 9)\} \quad \text{No}$$

x's cannot repeat



Find Slope

$$2x - 9y = 7$$

$$m = -\frac{A}{B} = \frac{+2}{+9}$$

$$x = 9$$
  
 undef.

$$(9, -2) (5, 3)$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{3 - (-2)}{5 - 9}$$

$$= \frac{5}{-4}$$

4/  $\parallel$ ,  $\perp$ , or neither

$$y = -\frac{4}{7}x + 3 \quad m = -\frac{4}{7}$$

$$7x - 4y = 8 \quad m = \frac{+7}{+4} \quad \text{perpendicular}$$

$$\underline{5} \quad 6x - 3y = 30 \quad \text{x-int \& y-int}$$

$$\begin{array}{r|l} 5 & 0 \end{array}$$

$$(5, 0) \text{ x-int}$$

$$\text{Use } \begin{array}{r|l} 0 & 0 \end{array}$$

$$\begin{array}{r|l} 0 & -10 \end{array}$$

$$(0, -10) \text{ y-int}$$

$$\begin{array}{c} \text{---} 9 \text{---} \\ | \\ \text{---} \end{array}$$

$$y = 9$$

x-int: None

y-int:  $(0, 9)$

Write: slope-intercept:  $y = mx + b$   
point-slope:  $y - y_1 = m(x - x_1)$

Write eq of line which joins  $(\underline{-5}, 3)$  +  $(\underline{-5}, 8)$   
 $\boxed{x = -5}$