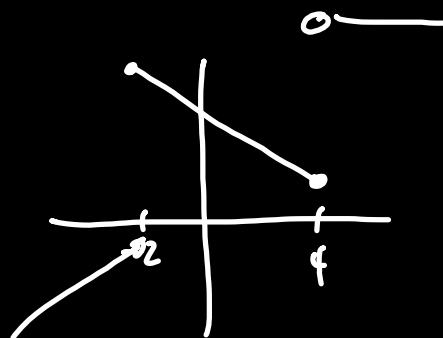


LINEAR FUNCTIONS REVIEW

Piecewise function

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



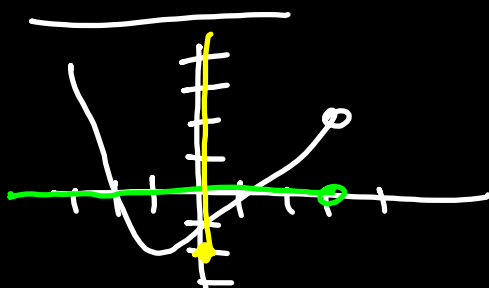
$$f(0) = 5 - 2(0) = 5$$

$$f(-6) = 2(-6) + 3 = -12 + 3 = -9$$

Function

Coordinates - x-coord cannot repeat

graph - vertical line test (pencil test)

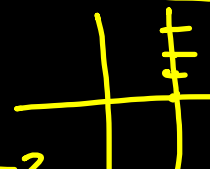


Domain = x-coord - L to R
 $x < 3$

Range = y-coord - Low to High
 $y \geq -2$

Slope

$x = 6$ vertical $\frac{0}{0}$
 Undefined slope



$$2x - 7y = 4 \quad m = -\frac{A}{B} = \frac{-2}{-7} = \frac{2}{7}$$

$$(4, 6) (7, -8) \quad m = \frac{y_2 - y_1}{x_2 - x_1}$$

4.) Check slopes = parallel: same slope
 perp: opposite reciprocal

5) Find x- & y-int.

$$8x - 2y = 24$$

$$\begin{array}{r|l} 3 & 0 \\ 0 & -12 \end{array}$$

x-int (3, 0)

$$7/ \quad \begin{array}{l} \text{Slope-Int} \\ y = mx + b \end{array} \quad \begin{array}{l} \text{Point-Slope} \\ y - y_1 = m(x - x_1) \end{array}$$

Find eq. of line $(-7, 2)$ $(-7, -3)$
 $x = -7$

pass thru $(3, -6)$ \perp to $5x - 2y = 8$

$$y - y_1 = m(x - x_1) \quad m = \frac{-5}{2}$$

$$y - (-6) = \frac{2}{5}(x - 3) \quad \perp m = \left(\frac{2}{5}\right)$$

8/9 $\begin{array}{l} \text{Slope-Int} \\ \text{slope} = \text{rate} \\ y\text{-int} = \text{start amt} / \text{flat fee} \end{array} \quad \begin{array}{l} \text{point-slope} \\ 2 \text{ sets of data} \end{array}$

