

WARM UP!



Silence your cell phone and put in wall hanger.

Review for Quiz next week. Grab a partner and get into the google classroom - Classwork - Google Form. Work together on the 10 problems to check your understanding of sections 2.1, 2.2

Aug 26-6:20 AM

GO COUGARS!



2.2 Piecewise Functions

Objective: To graph and write equations for Piecewise Functions

Aug 19-4:55 PM

2 Piecewise Functions 2023.notebook

TRY ONE:

$$f(x) = \begin{cases} -3 & ; x \leq -1 \\ -x + 4 & ; x > -1 \end{cases}$$

1. fence

2. graph each line

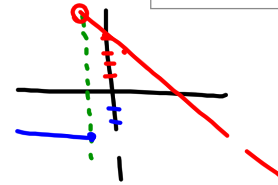
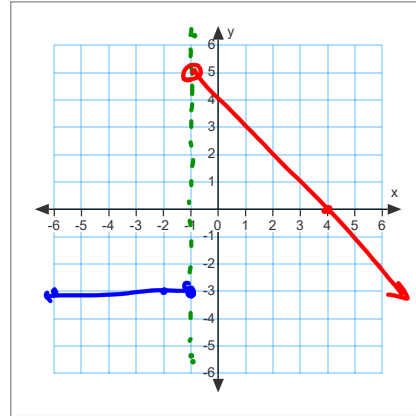
endpoint for right-side ($x > -1$)

$$f(-1) = -(-1) + 4 \\ = 5$$

$(-1, 5)$ is a point on the graph

$$f(4) = -(4) + 4 \\ = 0$$

$(4, 0)$ is another point



Aug 25-8:14 AM

Graphing a Piecewise Function

$$f(x) = \begin{cases} x + 5 & \text{if } x \leq -2 \text{ (left side)} \\ -2x - 1 & \text{if } -2 < x \leq 2 \text{ (middle)} \\ 2x - 3 & \text{if } x > 2 \text{ (right)} \end{cases}$$

left side: plug -2 in top equation
 $f(-2) = -2 + 5 = 3$ plot $(-2, 3)$
 $f(-3) = -3 + 5 = 2$ $(-3, 2)$

middle: plug -2 & 2 into middle equation

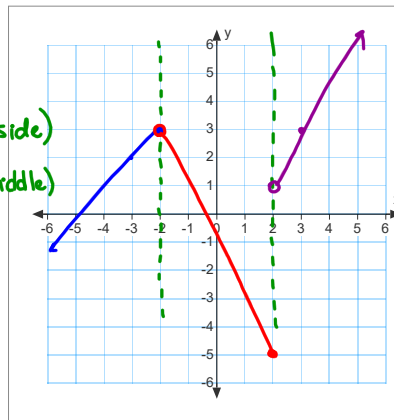
$$f(-2) = -2(-2) - 1 = 3 \text{ pt } (-2, 3)$$

$$f(2) = -2(2) - 1 = -5 \text{ pt } (2, -5)$$

right side

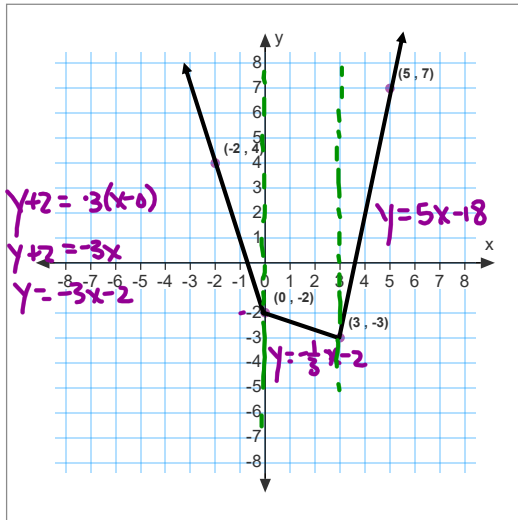
$$f(2) = 2(2) - 3 = 1 \text{ pt } (2, 1)$$

$$f(3) = 2(3) - 3 = 3 \text{ pt } (3, 3)$$



Aug 30-12:14 PM

Writing a piecewise function



Left
middle
right

$$f(x) = \begin{cases} -3x - 2 & x \leq 0 \\ -\frac{1}{3}x - 2 & 0 < x < 3 \\ 5x - 18 & x \geq 3 \end{cases}$$

$$f(x) = \begin{cases} -3x - 2 & x \leq 0 \\ -\frac{1}{3}x - 2 & 0 < x < 3 \\ 5x - 18 & x \geq 3 \end{cases}$$

Aug 30-12:20 PM

Let's use this piecewise function to evaluate the following:

domains
↓

$$y = \begin{cases} -3x - 5, & \text{if } x \leq 2 \\ \frac{1}{2}x + 2, & \text{if } x > 2 \end{cases}$$

top
 $f(0) = -3(0) - 5 = -5$ (0, -5)

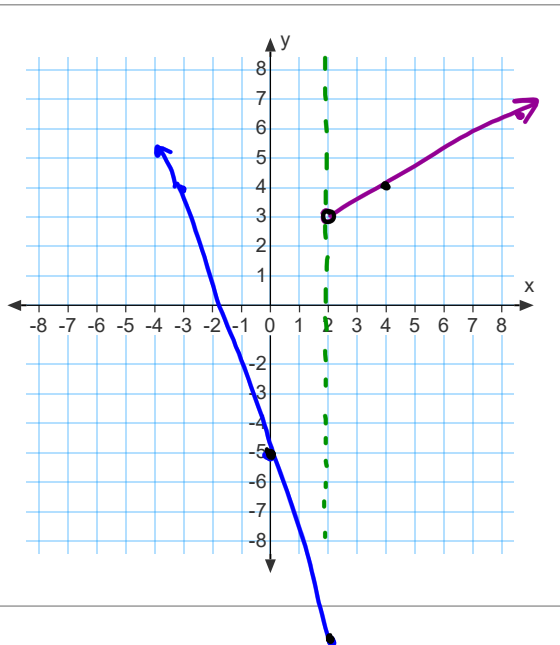
bottom
 $f(9) = \frac{1}{2}(9) + 2 = \frac{9}{2} + \frac{4}{2} = \frac{13}{2}$ (9, $\frac{13}{2}$)

top
 $f(2) = -3(2) - 5 = -11$ (2, -11)

top
 $f(-3) = -3(-3) - 5 = 4$ (-3, 4)

Aug 29-11:00 AM

Let's graph the same piecewise function to check our answers!



Pull

$$y = \begin{cases} -3x - 5, & \text{if } x \leq 2 \\ \frac{1}{2}x + 2, & \text{if } x > 2 \end{cases}$$

$$f(2) = 3(2) - 5 = -11 \quad (2, -11) \checkmark$$

$$f(0) = 3(0) - 5 = -5 \quad (0, -5) \checkmark$$

$$f(2) = \frac{1}{2}(2) + 2 = 3 \quad (2, 3) \checkmark$$

$$f(4) = \frac{1}{2}(4) + 2 = 4 \quad (4, 4) \checkmark$$

Aug 29-11:00 AM

GO COUGARS!



HW

WB pages 7-8 #1-15 all

Aug 19-4:55 PM

EXTRA SLIDES

Aug 29-12:46 PM

WARM UP!

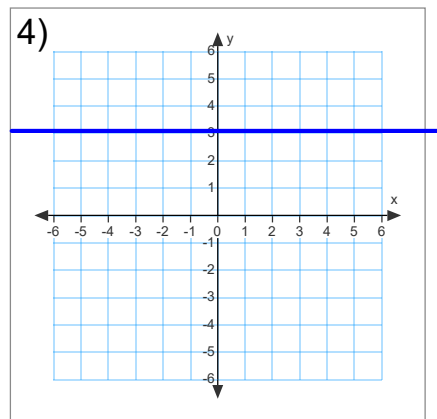


Write the equation of each line in slope-intercept form:

1) parallel to $5y = 2x + 3$ and through point $(-9, 7)$

2) through the points $(-4, 10)$ and $(-6, 15)$

3) perpendicular to $x + 3y = 12$ and through point $(5, -5)$.



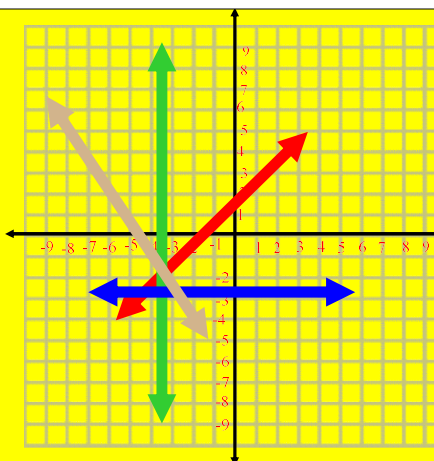
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Group Activity!



Aug 24-8:05 AM

Practice



Jan 14-7:48 AM