Warm Up

11/1/18

Half sheet
(Pick up from the stool)

3 con. ~~odd~~ even #'s Sum → 63

$x = 1^{st}$

$x+2 = 2^{nd}$

$x+4 = 3^{rd}$

$3x+6=63$

$$\cancel{-4x} - 8y = 24$$
$$\cancel{+4x} \qquad +4x$$

$$\frac{-8y}{-8} = \frac{4x}{-8} + \frac{24}{-8}$$

$$\boxed{y = -\frac{1}{2}x - 3}$$

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w = width w+5 = length

$$4w + \cancel{10} = 86$$
$$\cancel{-10} \quad -10$$

$$\frac{4w}{4} = \frac{76}{4}$$

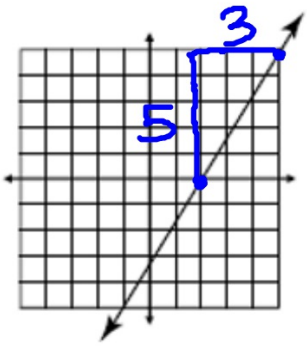
$w = 19$

width: 19

length: 19+5

$\boxed{24}$

FINDING SLOPE REVIEW

Source	Procedure	Example
Graph	Use the formula: $\frac{\text{Rise}}{\text{Run}}$ Rise→ change in the y-value (up or down) Run→ change in the x-value (left or right) Start at a point further left, rise up or down to match the height of the second point. Then run to the second point. Then simplify if you can!!	

$m = \frac{5}{3}$

Two Points	Use the formula: $\frac{Y_2 - Y_1}{X_2 - X_1}$ Then Simplify if you can!! Ordered pairs: (X_1, Y_1) and (X_2, Y_2)	(-5, 12) & (9, -20)

$$\overset{x_1}{(-5}, \overset{y_1}{12)} \quad \overset{x_2}{(9}, \overset{y_2}{-20)}$$

$$\frac{-20-12}{9+5} = \frac{-32}{14} = \boxed{-\frac{16}{7}}$$

Table	Find the change in the y-values FIRST! Then find the change in the x-values SECOND. Write as "Change in Y" "Change in X" Then Simplify if you can!!!	

x	y
9	2
3	-2
-3	-6
-9	-10

-6 -6 -6

-4 -4 -4

$$\frac{-4}{-6} = \boxed{\frac{2}{3}}$$

Equation	Equation needs to be in $y=mx+b$ format which is slope-intercept form. m= slope b= y-intercept If not in slope-intercept form: 1. Move the x-term from the left side to the right side of the equation 2. Divide by the coefficient in front of y by ALL terms in the equation. 3. Simplify if you can!!	$6x - 2y = 18$ $\cancel{6x} - 2y = 18$ $-\cancel{6x} \quad -6x$ $\frac{-\cancel{2}y}{-\cancel{2}} = \frac{-6x}{-2} + \frac{18}{-2}$ $\boxed{y = 3x - 9}$

Point - Slope Formula

$$y - y_1 = m(x - x_1)$$

What does it stand for?

y:

y_1 : y-value from ordered pair

m: slope

x_1 : x-value from your ordered pair

x :

Writing an equation given a point and the slope

1. Plug in the ordered pair for X_1 and Y_1 and the slope in for m

2. Solve the equation for Y

Writing an equation given a point and the slope

(-4, 6) and m = -3

$$y - y_1 = m(x - x_1)$$

$$y - 6 = -3(x + 4)$$

$$y - \cancel{6} = -3x - 12$$

$$\cancel{+6} \qquad +6$$

$$y = -3x - 6$$

Writing an equation given a point and the slope

(12, -5) and m = 1/2

$$y - y_1 = m(x - x_1)$$

$$y + 5 = \frac{1}{2}(x - 12)$$

$$y + \cancel{5} = \frac{1}{2}x - 6$$

$$\cancel{+5} \qquad -5$$

$$\boxed{y = \frac{1}{2}x - 11}$$

Writing an equation given a point and the slope

(-3, -7) and m = 0

$$\boxed{y = -7}$$

Writing an equation given a point and the slope

(-2, 9) and m is undefined.

$\boxed{x = -2}$

Writing an Equation given two points

1. Find the slope from the 2 points

2. Use the point-slope formula to plug in the X_1 and Y_1 from 1 point and the slope

Writing an Equation given two points

(-7, 4), and (12, -3)

① $\frac{-3-4}{12+7} = \frac{-7}{19}$

② $y - y_1 = m(x - x_1)$

$y - 4 = -\frac{7}{19}(x + 7)$

$y \cancel{-4} = -\frac{7}{19}x - \frac{49}{19}$

$\cancel{+4} \qquad +4$

$$\boxed{y = -\frac{7}{19}x + \frac{27}{19}}$$

Writing an Equation given two points

(6, -3), and (-9, 11)

① $\frac{11+3}{-9-6} = \frac{14}{-15} = \frac{-14}{15}$

② $y - y_1 = m(x - x_1)$

$y + 3 = \frac{-14}{15}(x - 6)$

$y + 3 = \frac{-14}{15}x + \frac{84}{15}$

$-3 \qquad\qquad -3$

$$\boxed{y = \frac{-14}{15}x + \frac{39}{15}}$$

Writing an Equation given two points

(-2, 6), and (-2, 9)

Same x-values

$m = \phi$

$\boxed{x = -2}$

Writing an Equation given two points

(15, -6), and (7, -6)

$m = 0$

$\boxed{y = -6}$