

Your Name

Mrs. Theo

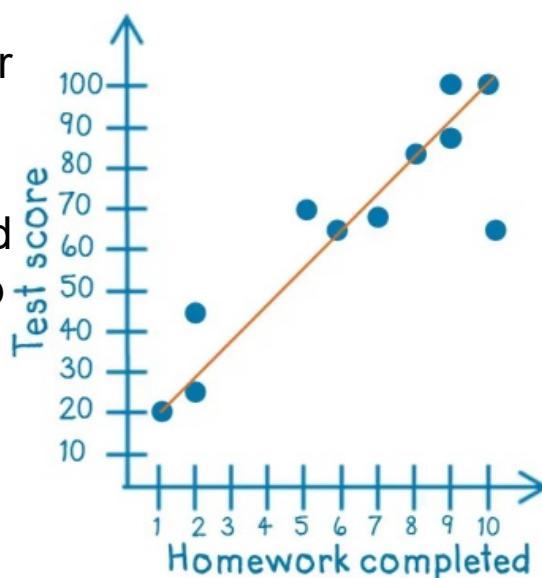
10 / 1 / 2021

Notes

## Writing Linear Functions given 2 points

### Core Lesson

Writing Linear functions to represent situations and data can help make predictions



Line of Best Fit  
Or  
Linear Model

Given  
Two  
Points

You need m and b

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

1. Find Slope using slope formula

2. Find b y-intercept: plug in one of the given points and slope, solve for b

1.) Find the equation of the line that passes through the two points A(-3,1) and B(3,-5). Write you answer in slope-intercept form  $y = mx + b$ .

let  $x_1, y_1$   $x_2, y_2$  Goal:  $y = -1x + -2$   
 $y = -x - 2$

Step 1:  $m = \frac{(-5) - (1)}{(3) - (-3)} = \frac{-6}{6} = -1$   
 $m = -1$

Step 2:  $y = mx + b$   $m = -1$   
 $1 = -1(-3) + b$   $A(-3, 1)$   
 $1 = 3 + b$   $x \quad y$   
 $-3 \quad -3$   
 $-2 = b$

2.) Find the equation of the line that passes through the two points F(8,-2) and G(-6,4). Write you answer in slope-intercept form  $y = mx + b$ .

Step 1  $m = \frac{4 - (-2)}{-6 - 8} = \frac{6}{-14} = \frac{3}{-7}$

$$y = -\frac{3}{7}x + 1.429$$

Step 2

$$y = mx + b$$

$$m = -\frac{3}{7}$$

$$4 = \left(-\frac{3}{7}\right)(-6) + b$$

$$G(-6, 4)$$

$$4 = 2.571 + b$$

$$-2.571 \quad -2.571$$

$$1.429 = b$$

# Core Lesson

$(1, 20)$   $(10, 100)$   
 $X_1, Y_1$   $X_2, Y_2$

$$m = \frac{100 - 20}{10 - 1} = \frac{80}{9}$$

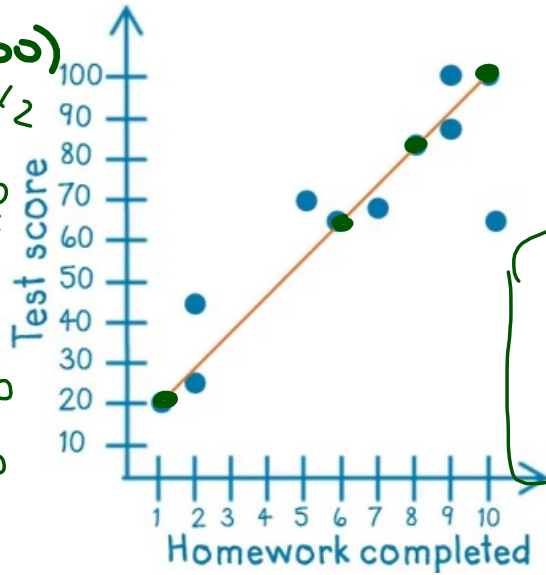
$$y = mx + b$$

$$20 = \frac{80}{9}(1) + b$$

$$20 = \frac{80}{9} + b$$

$$\frac{-80}{9} \quad \frac{-80}{9}$$

$$11.\bar{1} = b$$



What is the equation of the  
Line of Best Fit?  
Or  
Linear Model

$$y = \frac{80}{9}x + 11.\bar{1}$$
$$y = 8.\bar{8}x + 11.\bar{1}$$



## Store #1

