TWMM Unit Test Practice

Write the equation of the line given the following information.

Write the equation of the line in each graph.



Does the data in the tables represent a linear relationship? If yes, write the equation, if no explain why not.

$$y = -3x + b$$

$$y = -3(b) + b$$



y= 3x+b 100=3(4t)+b 100= 135+6 -135 -135 -35=6



Not Lincor No constant slope between paints

y = 2x + b 10 = 2(10) + b 10 = 20 + b -20 - 20 -10 = by = 2x - 10

- 1. The graph below shows a line of best fit for data collected on the amount earned by servers last week in relation to the number of tables they served.
 - a. Write the equation for the line of best fit.



b. What does the value of the slope represent in the context of this problem?



- c. What does the value of the y-intercept represent in the context of this problem? y-int: (0,375) The server is poicl a-flat for of \$375 /week in addition to what
- d. Using your model calculate how many tables a server would need to serve to make \$1000 in a week.



The server would reed 375-tables to make \$1000.

Wait Staff Earnings

e. Use your model to determine how much money would a server make if he was only able to serve 105 tables in the week?

y= = x+375 y= = (105)+375 y= 175+375



2. The graph below shows a line of best fit for data collected on the distance bicyclists in a race have remaining in relation to the amount of time they have been riding.



- b. What does the value of the slope represent in the context of this problem?
- - c. What does the value of the y-intercept represent in the context of this problem?

Vint (0,170)

The race is 170 km long

d. Using your model calculate how many kilometers the cyclist has remaining if she has been riding for three hours and forty-five minutes.

 $y = -25 \times +170$ y = -25 (3.75) + 170 y = -93.75 + 170y = 76.25

There are 76.25 miles remaining

e. Use your model to determine if the cyclist is 50 kilometers from the finish, how long has she been riding?

y=-25x+170 50 = -25 x+170 -170 48 = ×

She has been riding-for 4.8 hours or 4 hours 48 minutes.

3. The two-way table below shows the number of students with each hair color and eye color.

		Hair Color					
		Black	Brown	Red	Blond	Total	
Eye Color	Brown	7	12	3	1	23	
	Blue	2	8	2	9	21	
	Hazel	2	5	1	1	9	
	Green	1	3	1	2	7	
	Total	12	28	7	13	60	

True or false? Provide data to support your claim.

a. Blonde students are more likely to have blue eyes than brown haired students.



haired students. Haired students. $\frac{12}{13} = 92\%$ $\frac{4}{7} = 57\%$. Red-Lyfut Byes $\frac{4}{7} = 57\%$. True

e. Red haired students are less likely to have blue eyes than brown haired students.

Bran- Blue Eyes the ge False Equally as likely 2 = 29%

5. The table to the right gives information about numbers of students who do and and do and don't collect allowand

nbers of students who do and don't do chores		Allowance	No Allowance	l
do and don't collect allowance.	Do Chores	13	3	
Are students who do not collect allowance more likely to not do chores?	Do Not Do Chores	5	4	
No Allowance - No Chotras New Allow $\frac{4}{7} = 57\%$ $\frac{3}{7} = -\frac{3}{7}$	Now Allowance - Chat $\frac{2}{7} = 43\%$		ess likely do chores.	

Is it more likely for a student who does not do chores to collect allowance than it is for a student who does chores to not get an allowance?





Solve for x.



4x + 11 - 2x = 4 + 3x - 5

$$\begin{array}{c} 2x + 1| = 3x - 1 \\ -2x & -2x \\ 1| = x - 1 \\ +1 & +1 \\ 12 = x \end{array}$$

$$3x - 7 = 7 - 1(10x + 4)$$

$$3x - 7 = 7 - 10x - 4$$

$$3x - 7 = 3 - 10x$$

$$+10x + 10x$$

$$13x - 7 = 3$$

$$+7 + 7$$

$$13x - 7 = 3$$

$$+7 + 7$$

$$13x - 10$$

$$13 1 =$$

$$x = 10$$

$$13$$

$$3(2x-5) - x = 4 - 7(x+1)$$

$$6x - 15 - x = 4 - 7x - 7$$

$$5x - 15 = -7x - 3$$

$$+7x + 7x$$

$$12x - 15 = -3$$

$$+15 + 15$$

$$12x - 15 = -3$$

$$+15 + 15$$

$$12x - 12$$

$$12x - 12$$

$$x = 1$$

$$4(3x - 2) = 5x - 20$$

$$12x - 8 = 5x - 20$$

$$-5x + 5x$$

$$7x - 8 = -20$$

$$+8 + 8$$

$$7x = -12$$

$$7$$

$$x = -12$$

$$7$$