

Unit 4 Day 1

Use the equation to fill the table, then graph

GAS MILEAGE

Story:

↙ starting value
Your car has 10 gallons of gas.
You use up 1 gallon for every
20 miles you travel.



Equation: Provided for you 😊

$$y = -\frac{1}{20}x + 10$$

slope
(Rate of Change) | y-int
(Initial Value)

Initial Value:

10 gallons

(0, 10) {y-int}

Rate of Change:

SLOPE

$$\frac{\text{rise}}{\text{run}} = \frac{-1}{20} = \boxed{-\frac{1}{20}}$$

Graph:

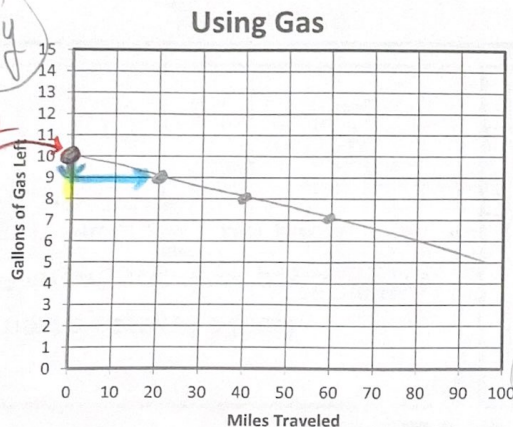


Table of Values:

Start here!

Miles x	Gallons Left y
0	$y = -\frac{1}{20}(0) + 10 = 10$
20	$y = -\frac{1}{20}(20) + 10 = 9$
40	8
60	7
80	6

(0, 10)
(20, 9)

PARTY GUESTS

Story:

To host a party at a local restaurant, you must pay \$ 90 to rent it and \$ 15 per guest.

Equation:

$$y = \underbrace{m}_\text{slope} x + \underbrace{b}_\text{y-int.}$$

$$y = 15x + 90$$

Initial Value:

$$\boxed{\$90}$$

$$\text{y-int. } (0, 90)$$

Rate of Change: (SLOPE)

$$\frac{\text{rise}}{\text{run}} = \frac{\$90}{6 \text{ guests}} = \$15 \text{ per guest}$$

OR $\frac{\$45}{3 \text{ guests}} = \15

Graph:

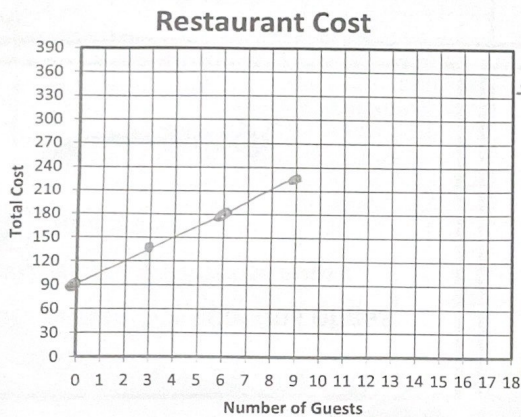


Table of Values: provided for you (partly) 😊

Guests Cost	
x	y
0	90
3	135
6	180
9	225
12	

Annotations:
 - From (0, 90) to (3, 135): +3 on x, +45 on y
 - From (3, 135) to (6, 180): +3 on x, +45 on y
 - From (6, 180) to (9, 225): +3 on x, +45 on y
 - From (0, 90) to (6, 180): +6 on x, +90 on y

Do bottom half first:
Table → Graph

TEMPERATURE TRENDS

From graph:

Story:

The temperature is currently -5 degrees Fahrenheit. It is rising 2 degrees every 3 hour(s).

Equation:

$$y = \underbrace{m}_\text{slope} x + \underbrace{b}_\text{y-int}$$

$$y = \frac{2}{3}x - 5$$

Initial Value:

-5°F

(0, -5) y-int

Rate of Change: 2 SLOPE

$$\frac{\text{rise}}{\text{run}} = \frac{2^\circ}{3\text{hr}} = \frac{2}{3}$$

degree per hour

Graph: Provided for you 😊 Start here!

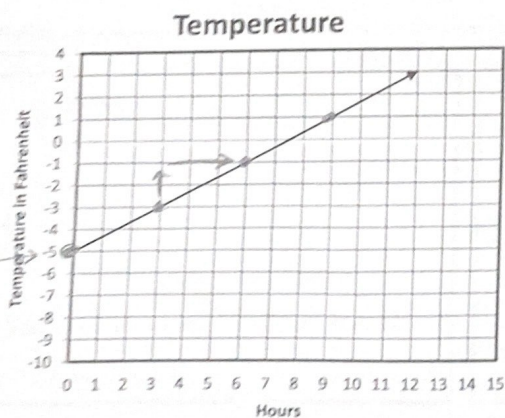


Table of Values:

hours	Temp.
x	y
0	-5°
3	-3°
6	-1°
9	1°
12	3°