

1. A car rental company charges its customers a flat \$20 processing fee plus \$0.75 per mile driven.
 - a. Complete the table and develop a function rule to represent the relationship between the number of miles driven, m , and the total cost, c .

| Number of miles driven, m | Process | Total cost (in dollars), c |
|-----------------------------|---------|------------------------------|
| 10 | | |
| 30 | | |
| 130 | | |

- b. Write a function that relates the total cost of renting a car, c , to the miles driven, m .

$c =$

- c. Which is the independent variable; the numbers of miles driven or the total cost of the rental? Why?
 - d. What is the domain of the function that models this situation?
 - e. What is the range of the function that models this situation?
2. Consider the mathematical function $y = -3x + 10$. What is the domain of this function? What is the range of this function?

Domain:

Range:

3. Use the data below to create a scatterplot.

| L1 | L2 |
|-------|-------|
| 0 | 4 |
| .4 | 8 |
| .8 | 11 |
| 1.2 | 8 |
| 1.6 | 4 |
| ----- | ----- |



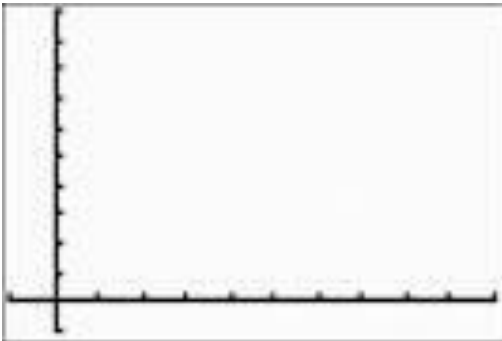
What are the domain and range of the mathematical function?

4. Belinda grows flowers in her greenhouse. She notices that one particular flower grows quickly. Belinda keeps track of this flower's growth. Her data is recorded in the table.



| Time in days | Height in cm's |
|--------------|----------------|
| 0 | 2 |
| 1 | 7 |
| 2 | 12 |
| 3 | 17 |

- a. Identify the independent and dependent variable in this situation. Explain your answer.
- b. Belinda determines that a function rule that represents the relationship between the number of days, d , and the height of the plant, h , is $h = 5d + 2$. Plot the data from the table on the graph and then add the graph of this function rule.



- c. What are the domain and range of this function rule as a model for this situation? Explain your answer.
- d. Assuming that this growth pattern continues, what will the height of these flowers be on day 6? Justify your answer.