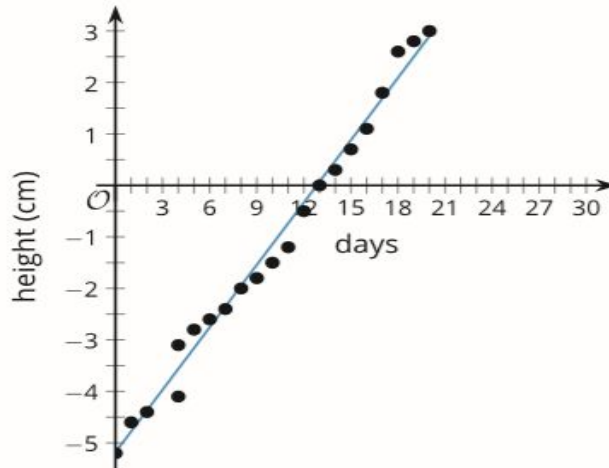


## Unit 5 - Two-Variable Statistics - Pre-Assessment

1.

A seed is planted in a glass pot and its height is measured in centimeters every day.

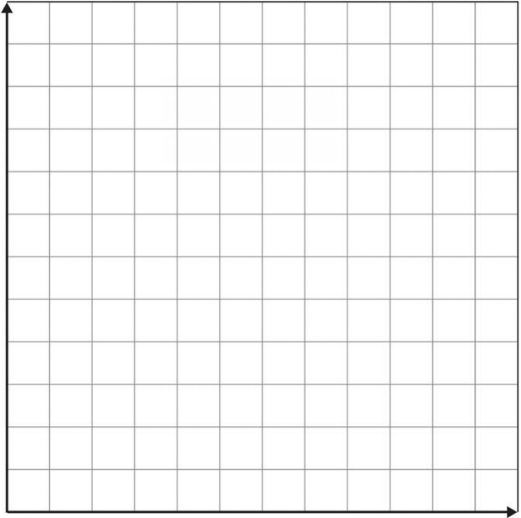


The best fit line is given by the equation  $y = 0.404x - 5.18$ , where  $y$  represents the height of the plant above ground level, and  $x$  represents the number of days since it first sprouted.

- Is this an example of a **positive** association or a **negative** association? Explain your reasoning.
- Is this an example of a **strong** or **weak** correlation? Explain your reasoning.
- What is the slope of the line of best fit AND what does it tell you about the plant?
- What is the y-intercept of the line of best fit AND what does it tell you about the plant?
- Use the equation to calculate the x-intercept of the line of best fit. Describe what the x-intercept tells you about the plant.

2. The table below shows the relationship between the latitude and average high temperature in April for 10 cities around the world.

| City                  | North Latitude | April Average High Temp |
|-----------------------|----------------|-------------------------|
| Lagos, Nigeria        | 6              | 89                      |
| San Juan, Puerto Rico | 18             | 84                      |
| Calcutta, India       | 23             | 97                      |
| Cairo, Egypt          | 30             | 83                      |
| Tokyo, Japan          | 35             | 63                      |
| Rome, Italy           | 42             | 68                      |
| Belgrade, Yugoslavia  | 45             | 45                      |
| London, England       | 52             | 56                      |
| Copenhagen, Denmark   | 56             | 50                      |
| Moscow, Russia        | 56             | 47                      |

|   |  |
|---|--|
| <p>Create a scatter plot of the data on the graph. Label your axes and give your graph a title.</p> <p>Draw the line of best fit</p>      |   |
| <p>Is this an example of <b>positive</b> or <b>negative</b> association? Explain your answer.</p>   | <p>Is this an example of <b>strong</b> or <b>weak</b> association? Explain your answer.</p>                                |
| <p>Miami, Florida, is at a latitude of <math>25.76^{\circ}\text{N}</math>. Use the graph to predict its average temperature in April.</p> | <p>Portland has an average temperature in April of <math>43^{\circ}</math>. Use the graph to approximate its latitude.</p> |