Math 9 Muscardin

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Chapter 5 – Graphing and Tables**

Test Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

To do:

5.1/5.2 – Graph Types/Graphs and Spreadsheets

* Complete Notes ⃝

5.3 – Cartesian Coordinates

* Complete Notes ⃝

5.4 – Data Trends

* Complete Notes ⃝
* Quiz 1 ⃝

5.5 – Equations, Tables and Graphs

* Complete Notes ⃝

5.6 – Best Form

5.7 – Y=MX+B

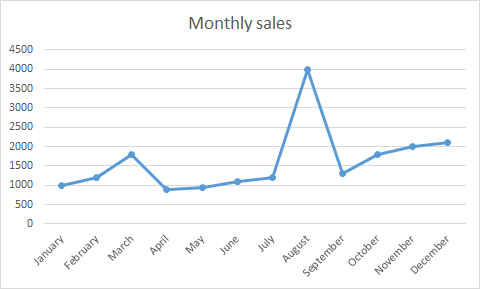
* Complete Notes ⃝
* Quiz 2 ⃝

Chapter Assignment Handout ⃝

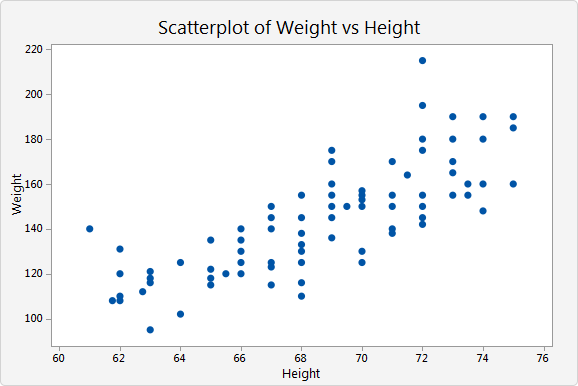
**Write Unit Test ⃝**

Math 9 **Lesson 5.1/5.2 – Graph Types/Graphs and Spreadsheets** Muscardin

**Line Graphs**



**Scatterplots**

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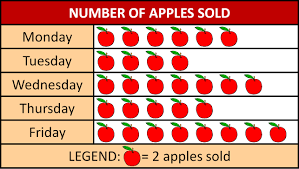
**Pie Graphs**

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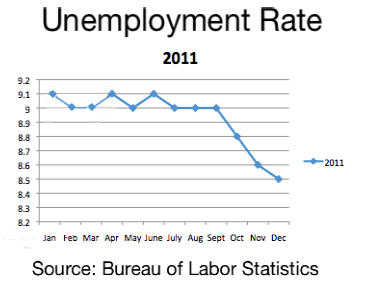
**Bar Graphs**

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**Pictographs**

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**Misleading Graphs**

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Math 9 **Lesson 5.3 – Cartesian Coordinates** Muscardin

Steps for building a Coordinate Plane:

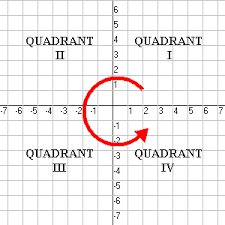
1. Start by thinking about the horizon, then draw our **horizontal axis**.
2. Mark an X on our horizontal axis so we know that it's our **X-axis**.
3. Draw our **vertical axis**, perpendicular to the X-axis.
4. Mark a Y on the vertical axis so we know that it's our **Y-axis**.
5. Confirm Y has a little V in it.  Use this to ensure you have the X and Y correct.
6. The **origin** is the intersection point in the middle (where both axes are at zero).
7. Add a scale to the X-axis.    Positive to the right, Negative to the left.
8. Add a scale to the Y-axis.    Positive going up, Negative going down.
9. You're ready to graph!



Plotting points:

* The location of a point is determined by its coordinates.
* We need an x-coordinate and a y-coordinate.
* The coordinates are often presented like this (1, -2).
* The set of coordinates can also be called an ordered pair.
* The first number is the X-value (left or right).
* The second number is the Y-value (up or down).







Math 9 **Lesson 5.4 – Data Trends** Muscardin

Types of trends:

* Linear = best represented by a straight line.
* Nonlinear = best represented by some nonlinear curve.

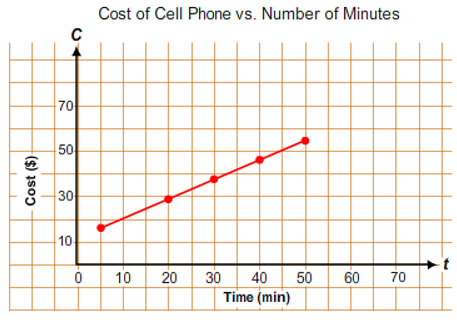
How good is a trend line? Some data follows a trend closely, while other data is not that close.   How do we describe the difference?



Correlation Coefficient:

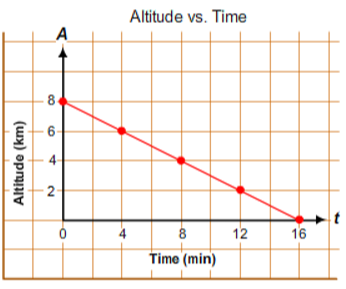
* r = correlation coefficient = how well the curve fits the data
* r = 1:  perfect positive correlation
* r = 0: no correlation
* r = -1:  perfect negative correlation

Sometimes we want to estimate a value that goes beyond the values that we already know from the pattern. This process of going beyond is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



What is the approximate value of the C-coordinate when ?

Sometimes we want to find a value by calculating or estimating between two already known values; this process is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.



What is the approximate value of the t-coordinate when ?

Math 9 **Lesson 5.5 – Equations, Tables, and Graphs** Muscardin

When data from two variables are collected it is usually put into a table of values and/or a graph, so a relationship between the variables can be more easily recognized.

We will be looking at linear relationships, which means the relationship between the two variables will be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Equations to tables:

1. make table
2. sample set of data for independent variable in left column
3. evaluate for each set of data in right column
4. done!

Tables to graphs:

1. make grid
2. independent variable on horizontal axis
3. dependent variable on vertical axis
4. plot each "data set" or "ordered pair"
5. done!

To create an equation from a table of values, you need to determine:

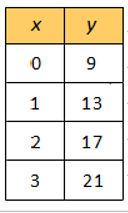
* the pattern (When *x* increases by 1, *y*increases/decreases by \_\_\_ )
* the value of *y* when *x* = 0.

Next, input this information into your linear equation as follows:

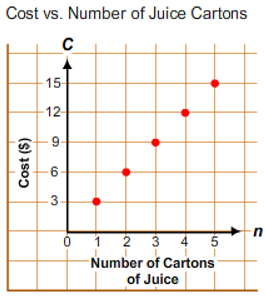
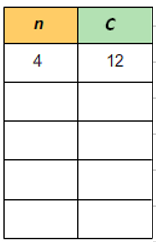
* the pattern becomes the coefficient for *x*(the number by which *x* will be multiplied) *Ex. y =****3****x + 2*
* the value of *y* when *x* = 0  becomes the constant (the number added at the end) *Ex. y = 3x +****2***

**Examples:**

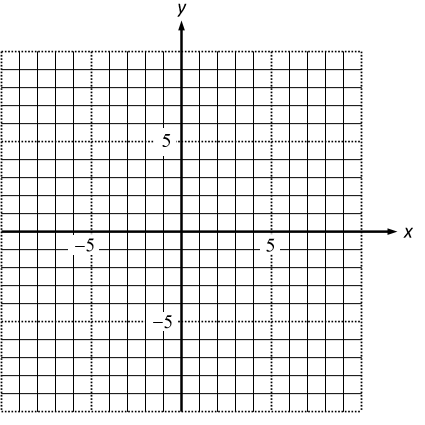
1. Write a linear equation that represents the pattern found in the given table of values and then verify the equation:



1. Complete the table of values for the following graph:

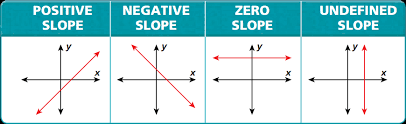
1. Graph the following linear equation:



Math 9 **Lesson 5.7 – Y=MX+B** Muscardin

The slope of a line describes both the direction and steepness of the line. It is calculated by finding the ratio of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between any two distinct points on a line.



The slope-intercept form of an equation:

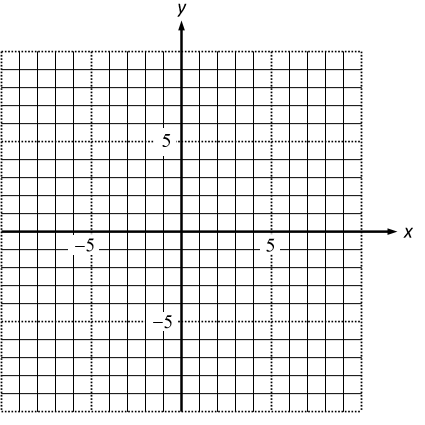
can save us a lot of time in our graphing!

**Examples:**

* 1. Use the equation for slope to determine the slope of a line that passes through the given points:

and

* 1. Graph the line using only the slope-intercept equation:



* 1. Match the following equations to the appropriate graph:

, ,

