

Math 8

Tripp

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
- Quiz 1

5.4 – Data Trends

- Complete Notes

5.5 – Equations, Tables and Graphs

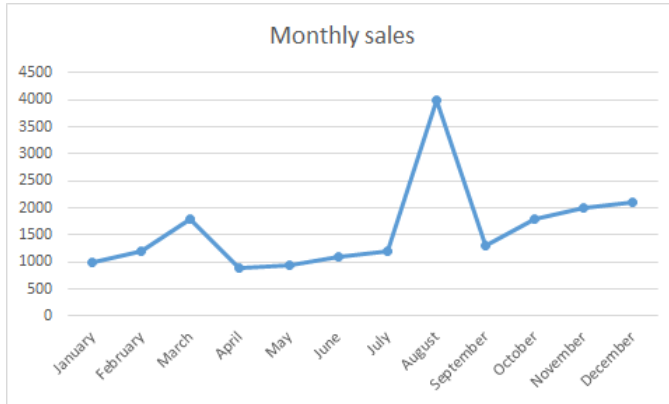
- Complete Notes

5.6 – Best Form

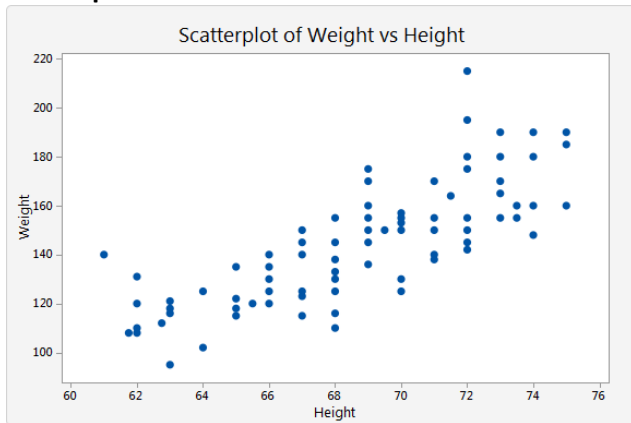
- Quiz 2

Write Unit Test

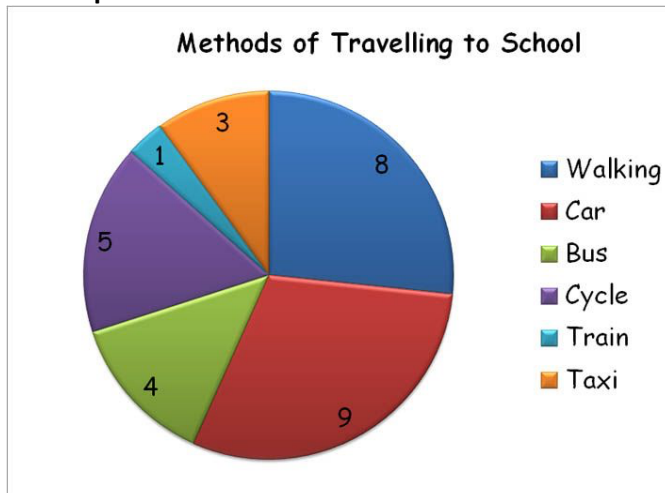
Line Graphs



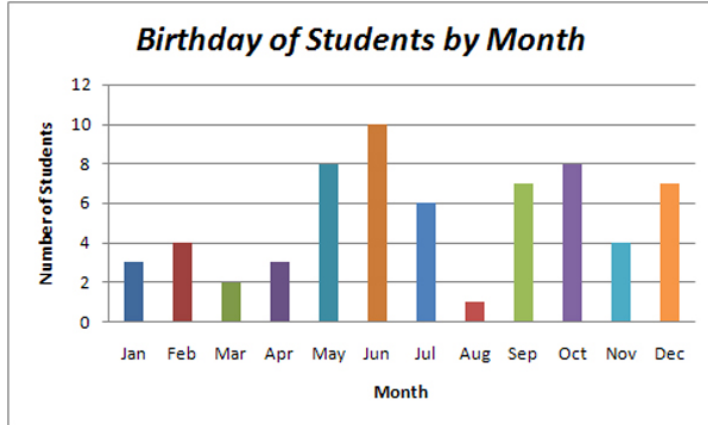
Scatterplots



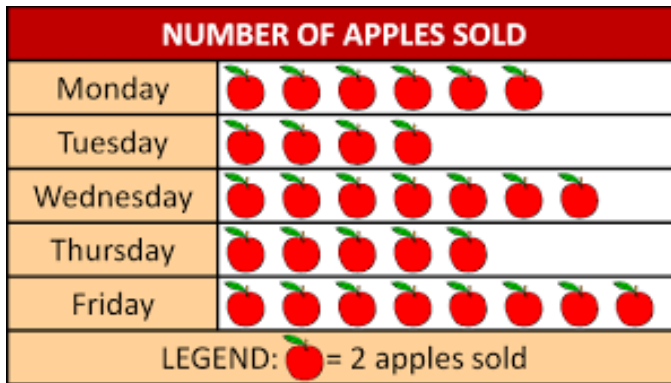
Pie Graphs



Bar Graphs

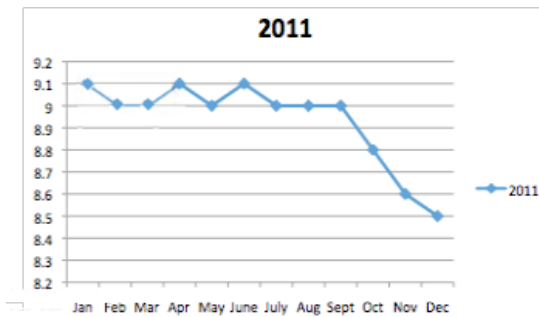


Pictographs

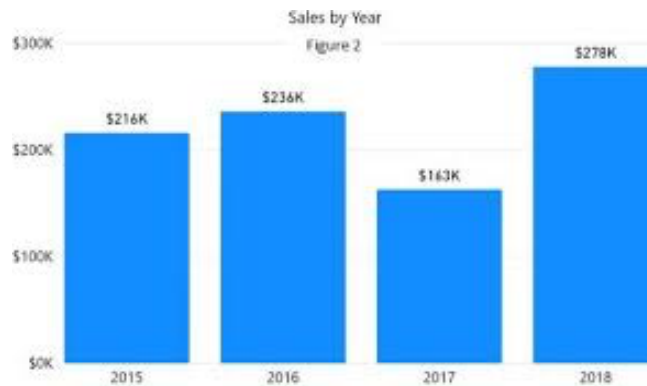


Misleading Graphs

Unemployment Rate

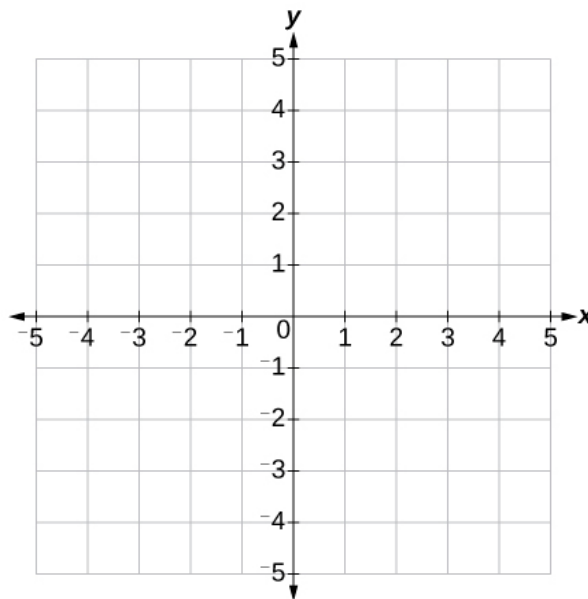


Source: Bureau of Labor Statistics



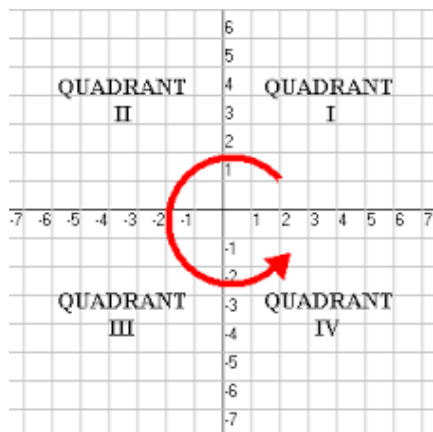
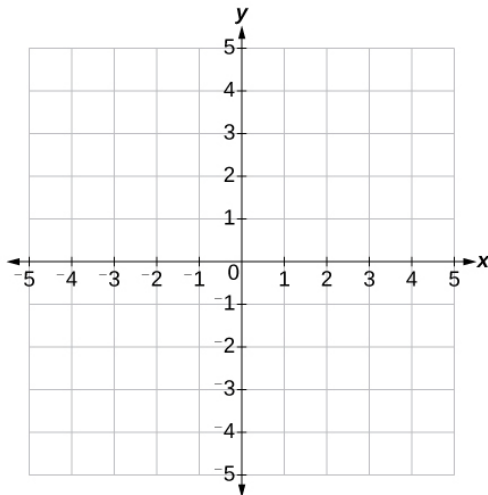
Steps for building a Coordinate Plane:

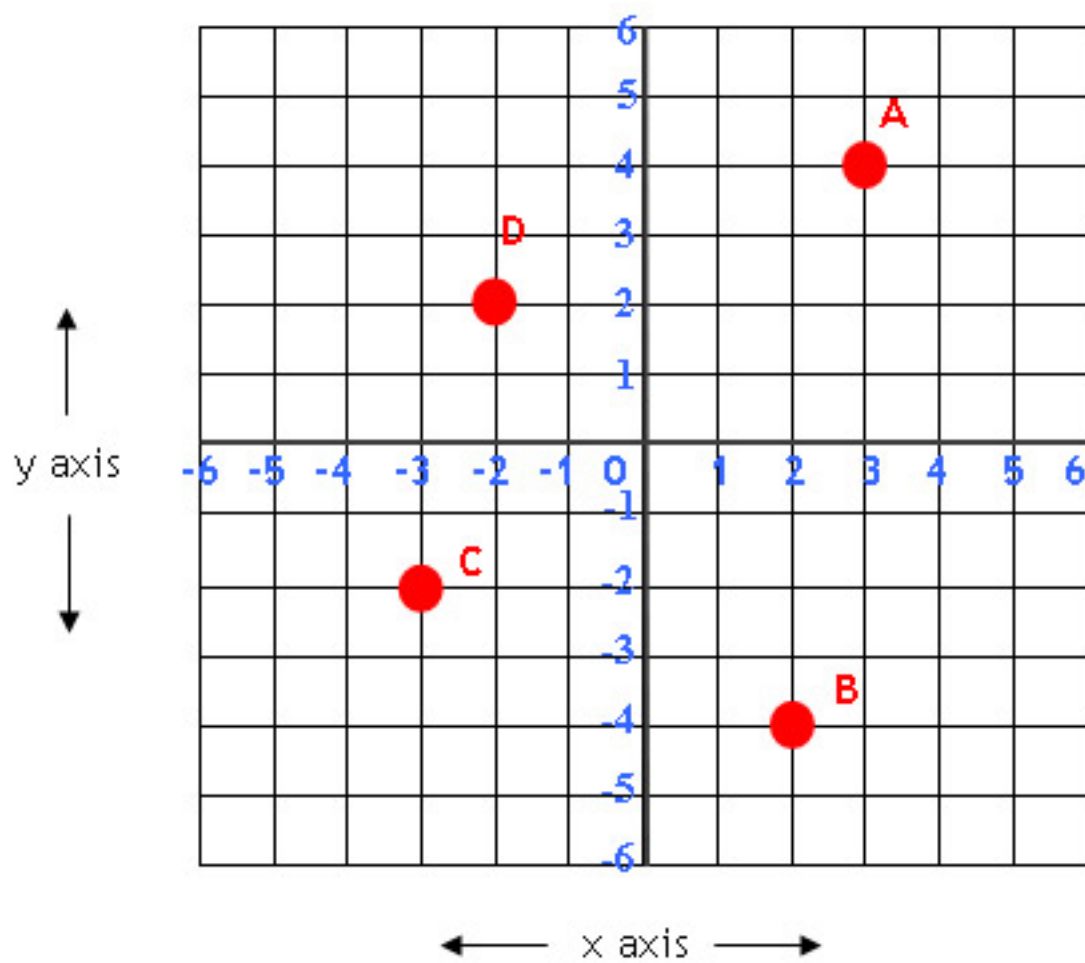
1. Start by thinking about the horizon, then draw our **horizontal axis**.
2. Mark an X on our horizontal axis so we know that it's our **X-axis**.
3. Draw our **vertical axis**, perpendicular to the X-axis.
4. Mark a Y on the vertical axis so we know that it's our **Y-axis**.
5. Confirm Y has a little 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).

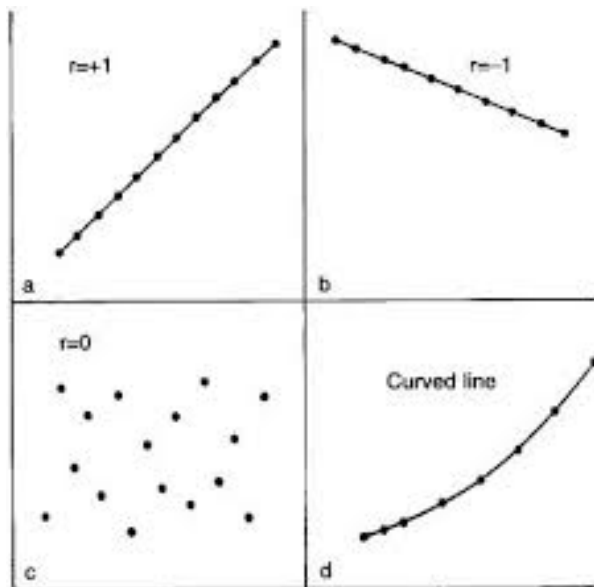




Types of trends:

- 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?

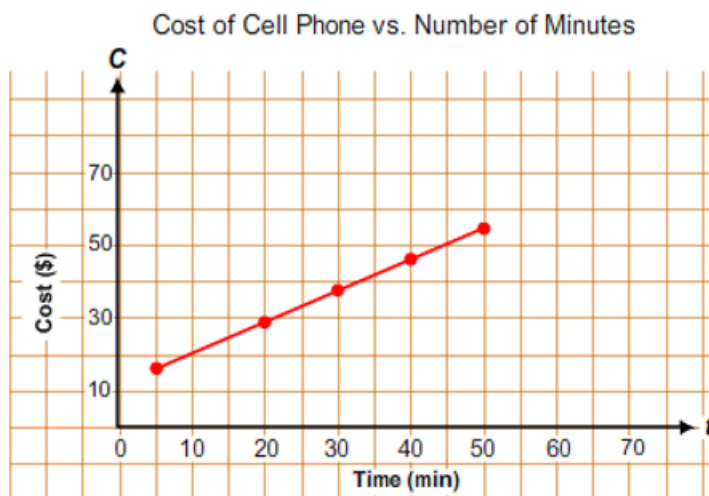


Correlation Coefficient:

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

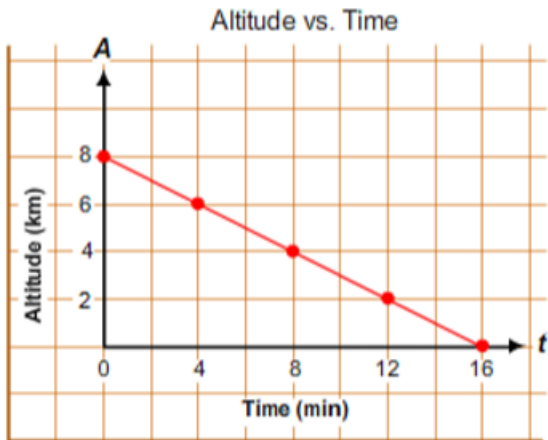
Sometimes we want to estimate a value that goes beyond the values that we already know from the pattern. This process of going beyond is called

_____.



What is the approximate value of the C-coordinate when $t = 55$?

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 $A = 3$?

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.*

$$y = 3x + 2$$

- the value of y when $x = 0$ becomes the constant (the number added at the end) *Ex.* y

$$= 3x + 2$$

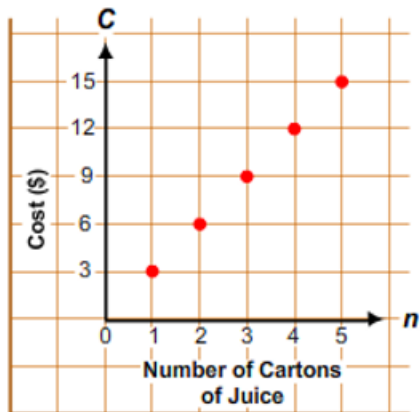
Examples:

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

| x | y |
|-----|-----|
| 0 | 9 |
| 1 | 13 |
| 2 | 17 |
| 3 | 21 |

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

Cost vs. Number of Juice Cartons



| n | C |
|-----|-----|
| 4 | 12 |
| | |
| | |
| | |
| | |

3. Graph the following linear equation: $y = 2x + 1$

