MATH 1710 Vocabulary Unit 1.a Practice Dr. Otts 09F

Cartesian Coordinate System (aka_____) is a _____ number line (the_____) intersecting with a _____ number line (the_____) at right angles at the zero coordinates of each line (the _____).

Quadrants are the _____ areas of the Cartesian coordinate system formed by the intersecting number lines. Quadrants are designated by _____ from _____ to _____ beginning in the upper right and proceeding _____.

x-axis is the _____ number line. From 0 to the _____ is negative, from 0 to the _____ is positive.

y-axis is the _____ number line. From 0 down is _____, from 0 up is _____.

The **Origin** is the intersection of the two _____ at their _____, thus its coordinates are (_____,_____).

A **Point** is any location on the _____ coordinate system. Every point has a _____ and a _____ component that establish its position on the coordinate plane in relation to the _____.

An **Ordered Pair** is the pair of coordinates that _____ the location of a point on the coordinate plane in relation to the _____. The ordered pair gives the _____ to the point from the _____. Ordered means that the _____-coordinate ALWAYS comes first and the _____-coordinate ALWAYS comes second, separated by a _____.

The **x-coordinate** gives the _____ and _____ of the point from the origin along the _____ number line, the _____-axis. The x-coordinate will ALWAYS be listed _____ in an ordered pair.

The **y-coordinate** gives the _____ and _____ of the point from the origin along the _____ number line, the _____-axis. The y-coordinate will _____ be listed second in an ordered pair.

Plot: to _____ a point on the coordinate system starting at the _____ and using the ordered pair of coordinates, first _____ then _____.

linear equation: an equation in one or more _____ in which no exponent has a power other than _____. Called linear because the graph of a linear equation in two variables is a _____.

The **Standard Form** of a Linear equation in two variables is: _____ + _____ = _____, where _____, _____, and _____ are _____ and _____ and _____ are _____ in alphabetical order.

The **Solution of a linear equation** in two variables is the set of all _____ that satisfy (make a true statement of) the equation. When we try to graph all the _____, we will get a _____.

Three Methods to graph a line:

1. _____
2. _____
3. _____

The graph of a line: the representation of the _____ _____ of a linear equation in two variables on the coordinate system.

An ordered pair is **on the line** when its coordinates are a _____ to the equation.

Intercepts: the point where the line crosses one of the _____. The _____ of the intercept specifies which _____ is crossed and which coordinate will probably have a value other than _____. The only time both coordinates are _____ is when the line intercepts the _____.

The ***x*-intercept** is where the line crosses the _____-axis and has coordinates (_____, _____).

The ***y*-intercept** is where the line crosses the _____ axis and has coordinates (_____, _____).

Slope: We use the letter m to represent slope because DeCartes is French. The slope tells us the RATE of Change between points on the same line. It also gives directions from a point on a line to another point on the same line. The slope is often referred to as the **Rise** over the **Run**.

Rise: the difference in the _____ between two points on the same line, usually written as _____.

Run: the difference in the _____ between two points on the same line, usually written as _____.

Slope - Intercept Equation: $y = mx + b$

m is the _____ and b is the _____

Parallel lines have the same _____ and different _____.

Perpendicular lines intersect at right angles and their slopes are _____.

The graph of a linear equation will be one of four possible lines:
Rising line: line slants up from left to right on the graph. The slope is ALWAYS _____. IS a function.

Falling line: line slants down from left to right on the graph. The slope is ALWAYS _____. IS a function.

Horizontal line: line is straight across the graph from left to right, neither rising nor falling. The slope is ALWAYS _____. IS a function.

Vertical line: line is straight up and down the graph. The slope is ALWAYS _____ . IS NOT a function!!

Point - Slope Equation Form: _____ = _____

function: a special case of mathematical statement where an _____ is matched to only one _____.

function notation: $f(x) = ax + b$
f is the _____ of the function
x tells us _____ for the variable
$ax + b$ (an expression, just like in Unit 1) tells us how to _____ the function for the given value.
x is the _____,
the calculated value of $f(x)$ is the _____.

domain of a function: the set of all values that may be _____ to the function.

range of a function: the set of all of the possible values that will result from _____ the function for an input. All the possible _____ of the function.

Table: a set of ordered pairs presented in tabular format; paired _____ and _____ listed as X and Y1 on the graphing calculator (Press [2nd] [GRAPH]).

Input: the value typed in or _____ for x in the expression or function being evaluated.

Output: the _____ value, Y1 on the graphing calculator, of the expression or function using the input value.

Percent Change formula: To find the percent change between two values, divide the difference of the new (N) value and the previous (P) value by the previous value, then multiply times 100: %change = (N - P)/P * 100

Thickness formula: T = V/A
volume (V, ALWAYS in _____ units)

area (A, ALWAYS in _____ units):

Slope formula: m = (–) / (–)

Distance formula: d =

Polya's Method: a structured approach to solving applications (word problems). has four steps:
(1) ; (2) ; (3) ; (4)