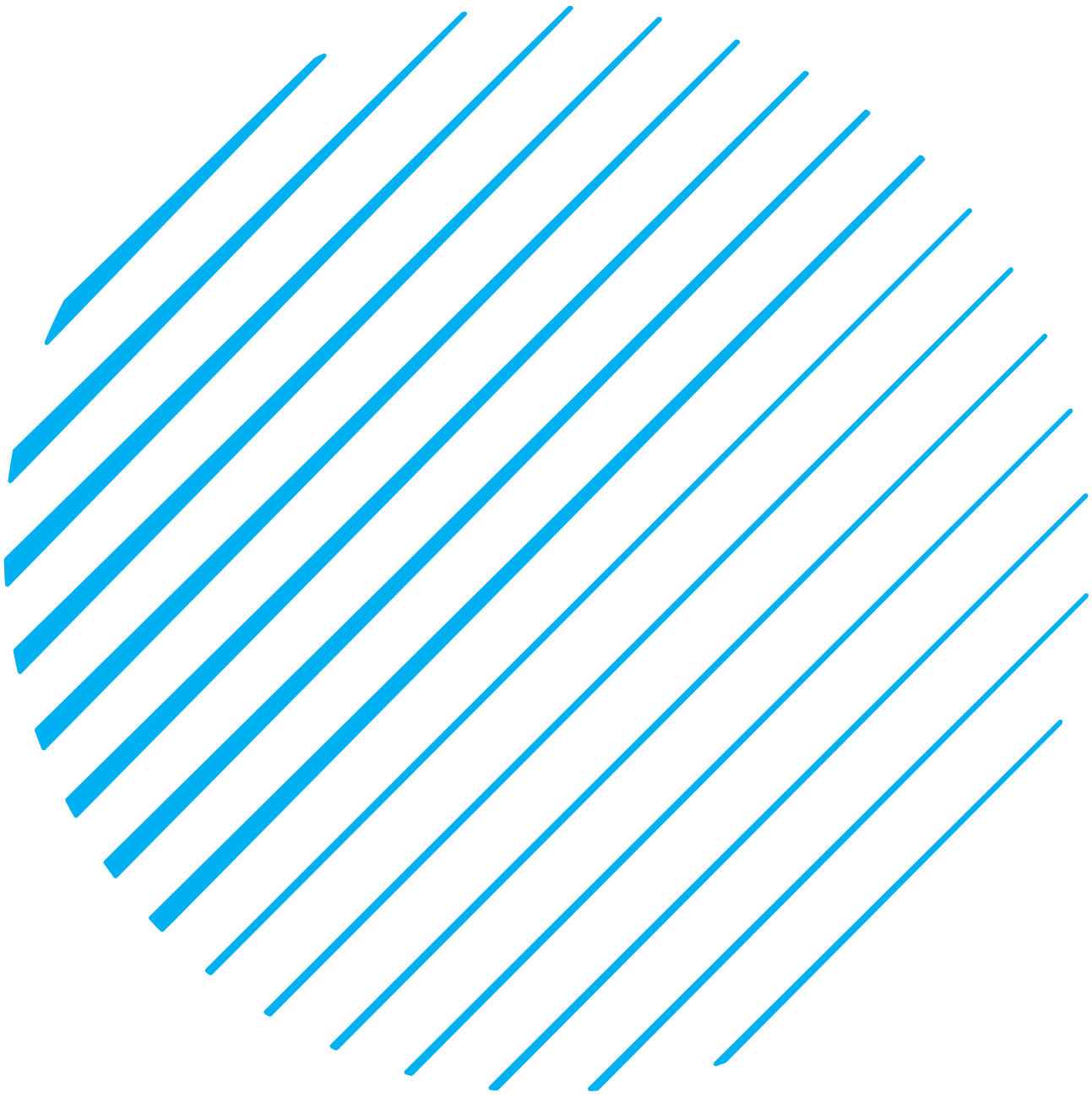
VITAL MATHEMATICS



ALGEBRA

LINEAR EQUATION IN TWO VARIABLES

STEVIE CARPENTER

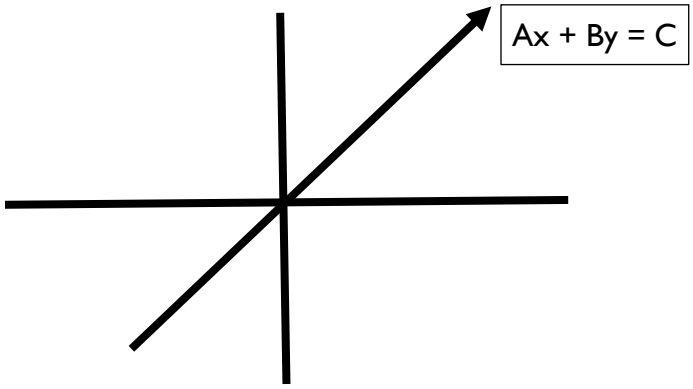
INTRODUCTION

A variable is a letter or symbol that represents the various values that a variable could be within mathematical operations. A common variable used in algebra is x and y. Since we are evaluating linear equations, the variable is written with no exponent or root function. The purpose of this linear equations in two variables is to provide knowledge on how the dependent variable (y) changes with respect to the independent variable (x).

A linear equation in two variables is an equation of the form

$$Ax + By = C$$

Where A, B and C are Real numbers. A and B cannot both be zero. The graph of a linear equation is a line



SOLVING LINEAR EQUATION IN TWO VARIABLES

STEP 1) Remove the parentheses using the distributive property.

$$Example: x(a+b) = x \times a + x \times b$$

STEP 2) Combine like terms on each side of the equation.

STEP 3) Move the variable y to the left side and move the variable x and constants to the right; combine like terms again if necessary.

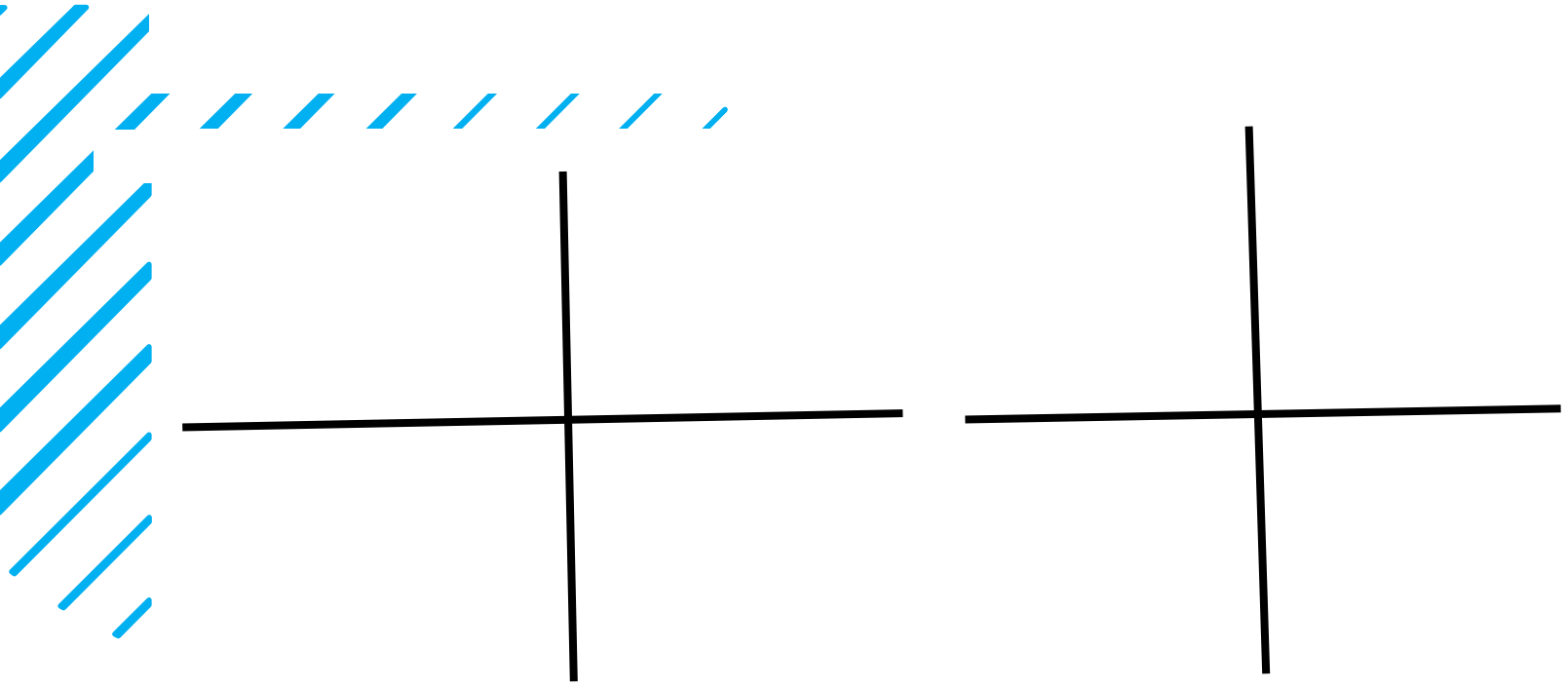
STEP 4) When there is a constant attached to the y variable, divide or multiply the constant attached to the y variable on both sides.

STEP 5) Evaluate the equation by using the given x value as a solution to see if true.

SOLVING LINEAR EQUATION IN TWO VARIABLES EXAMPLE

Example 1: $3x - 4y = 9 - y$. Graph the equation and is $f(-1) = -4$

Example 2) $2x - 5y - 10 = 0$. Graph the equation and is $f(5) = 0$



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