**Trigonometric Equations**

A _____ is an equation in which some replacements for the variable make the statement true and some replacements for the variable make it false.  For example:

$$2x+3=5 \qquad x^2-5x=10 \qquad 2x=8$$

Today, we will be discussing conditional equations that involve trigonometric functions.

Examples: Solve the following

1. $3\sin x = \sqrt{3} + \sin x$

2. $\sin x + \cos x = 0$ for $0° \le x < 360°$

3. $\sin x \tan x = \sin x$ for $0° \le x < 360°$

4. $\tan x + \sqrt{3} = \sec x$ for $0 \le x < 2\pi$

5. $\tan^2 x + \tan x - 2 = 0$ for $0 \le x < 2\pi$

6. $\cot^2 x + 3\cot x = 1$ for $0° \le x < 360°$