Name:

QUIZ – MATH GRADE 11

1. (15%) Given the following equation $2\cos(2x) = 1$
   a. (8%) Find the general solution

   b. (7%) Find all the solutions in the interval $[-\pi, \pi]$

2. (15%) Given the following equation $\sin(\frac{x^o}{2}) + 1 = 0$

   a. (8%) Find the general solution

   b. (7%) Find all the solutions in the interval $[-500^o, 500^o]$

3. (20%) Given the following equation $-\sqrt{3}\tan(3x) = 1$
   a. (10%) Find the general solution

   b. (10%) Find all the solutions in the interval $[0, 2\pi]$

4. (30%) Given the equation $Cos(2x) - \cos(x) = 0$

   a. (5%) Show that the equation can be written as $2Cos^2(x) - \cos(x) - 1 = 0$

   b. (15%) Find all the general solutions of the equation (either by factoring or change of variable)

   c. (10%) Find all the solutions of the equation in the interval $[-\pi, \pi]$

5. (20%) Given the function $f(x) = -3\sin(0.7x + 3) + 2$ .Find the value of k for which $f(x) = k$ has

a. (7%) No solution

b. (7%) Infinite solutions

c. (6%) Is there any value of k for which the equation has a finite number of solutions? explain