

Name: \_\_\_\_\_

## Solving Trigonometric Equations

1) Find all solutions to the given equations below

1)  $2\cos 3x + 1 = 0$

2)  $\sec^2 x - 2 = 0$

3)  $2\cos^2 x + \sin x = 1$

4)  $(\tan x + 1)(\sqrt{3}\tan x - 1) = 0$

5)  $2\cos^2 x - \cos x = 1$

6)  $\sin x + 2 = 3$

7)  $\tan^2 x - 4\tan x + 2 = 0$

8)  $\cos^2 x = \sin^2 x + 1$

9)  $2\cot x + 1 = -1$

10)  $5\sec^2 x = 6\sec x$

11)  $\tan x - \cot x = 0$

12)  $9\sin^2 x - 5\sin x = 1$

13)  $2\cos^2 x - \sqrt{3}\cos x = 0$

14)  $2\cos^2 x - \cos x = 1$

15)  $(\csc x + 2)(\csc x - \sqrt{2}) = 0$

16)  $-2\sin^2 x = 3\sin x + 1$

17)  $\cos^2 x + 2\cos x + 1 = 0$

18)  $(\cot x - 1)(\sqrt{3}\cot x + 1) = 0$

19)  $4\cos^2 x + 4\cos x = 1$

20)  $\csc^2 x - 2\cot x = 0$

21)  $\cos^2 x = \sin^2 x + 1$

22)  $\sin^2 x \cos x = \cos x$

23)  $2\tan^2 x \sin x - \tan x = 0$

24)  $9\sin^2 x - 6\sin x = 1$

25)  $3\cot^2 x - 3\cot x - 1 = 0$

26)  $\cos^2 x - \sin^2 x = 0$

27)  $2\cos^2 x + 2\cos x - 1 = 0$

28)  $\sin^2 x \cos^2 x = 0$

29)  $\tan^2 x + 4\tan x + 2 = 0$

30)  $\sin^2 x - 2\sin x + 3 = 0$

31)  $2\sin x = 1 - 2\cos x$

32)  $\cot x + 2\csc x = 3$

33)  $\frac{2\tan x}{3 - \tan^2 x} = 1$

34)  $\sec^2 x = 2\tan x + 4$

35)  $3\sin^2 x - \sin x = 2$

36)  $2\cos^2 x + 5\cos x + 2 = 0$

37)  $2\cos^2 x + \cos x = 1$

38)  $5\sec^2 x = 6\sec x$

39)  $4\cos^2 x - 1 = 0$

40)  $3\sin^2 x - \sin x - 1 = 0$