

Math 124 Homework §6.3

Find all real solutions. Give exact values in radians.

1.  $\sin 2x = 1/2$
2.  $\cos 3x = -1/2$
3.  $\sin 3x = -\sqrt{2}/2$
4.  $\cos 2x = -\sqrt{3}/2$

First solve for the trig function. Then give all exact solutions in the interval  $[0, 2\pi)$ .

5.  $2 \sin x + 3 = 4$
6.  $\sin x + 2 = 3$
7.  $\tan^2 x + 3 = 0$
8.  $2 \sin^2 x - \sin x - 1 = 0$
9.  $-2 \cos^2 x = 3 \cos x + 1$
10.  $\sin 2x = \cos x$ . (Hint: Use  $\sin 2x = 2 \sin x \cos x$ )
11.  $\sin 2x = \sin x$  (Hint: Use  $\sin 2x = 2 \sin x \cos x$ )