

Advanced Algebra

Unit 10 Assignment #13 Trig Equations

Solve the following Trig Equations:

1) $2\cos\theta - 1 = 0$

2) $3\tan\theta - \sqrt{3} = 0$

3) $\cos\theta - 1 = -\cos\theta$

4) $6\sin\theta = \sin\theta + 3$

5) $4\cos\theta = 2\cos\theta + 1$

6) $4\sin^2\theta - 2 = 0$

7) $9\tan^2\theta - 3 = 0$

8) $\sin\theta\cos\theta - 2\cos\theta = 0$

9) $\sqrt{2}\cos\theta\sin\theta - \cos\theta = 0$

10) $2\sin^2\theta - \sin\theta = 1$

11) $\csc\theta - 2 = 0$

12) $3\tan^3\theta - 3 = 0$

The following problems are "High Challenge Problems"

You might use the **Negative Angle Identities:**

$\sin(-x) = -\sin x$	$\cos(-x) = \cos x$	$\tan(-x) = -\tan x$
----------------------	---------------------	----------------------

Pythagorean Theorem Identities:

$\sin^2 x + \cos^2 x = 1$	$1 + \tan^2 x = \sec^2 x$	$1 + \cot^2 x = \csc^2 x$
---------------------------	---------------------------	---------------------------

13) $\sin\theta = \sin(-\theta) + 1$

14) $0 = \cos^2 x - 6\cos x + 5$

15) $1 - \sin x = \sqrt{3}\cos x$

16) $\sqrt{\sin x} = 2\sin x - 1$