

Solving Trigonometric Equations HOMEWORK

Name: _____

Date: _____ Block: _____

Solve the following equation on the interval $0 \leq x \leq 2\pi$.

1. $\sqrt{3} \csc x + 2 = 0$

2. $3 \tan x - \sqrt{3} = 0$

3. $4 \cos^2 x - 3 = 0$

4. $2 \sin^2 x - 1 = 0$

5. $\sin x \cos x = 3 \cos x$

6. $2 \tan^4 x - \tan^2 x - 15 = 0$

7. $\sqrt{\cos x} = 2 \cos x - 1$

8. $\tan^2 x - 3 \tan x + 2 = 0$

Find the general solutions to the following trigonometric equations.

9. $\sin \alpha + \sqrt{2} = -\sin \alpha$

10. $3 \tan^2 \theta - 9 = 0$

11. $4 \cos^2 x - 1 = 0$

12. $\sqrt{3} \cos x \tan x - \cos x = 0$

13. $2 \sin^3 \theta = \sin \theta$

14. $1 + \cos \beta = \sqrt{3} \sin \beta$

15. $2 \sin^2 x - \cos x - 1 = 0$

16. $\sin^2 \theta + 5 \sin \theta = 3$

9. $\frac{5\pi}{4} + 2\pi k, \frac{7\pi}{4} + 2\pi k$	10. $\frac{\pi}{3} + \pi k, \frac{2\pi}{3} + \pi k$	11. $\frac{\pi}{4} k$	12. $\frac{\pi}{2} + \pi k, \frac{\pi}{6} + \pi k$	13. $\frac{\pi}{4} k, \frac{\pi}{2} + 2\pi k$
14. $\frac{\pi}{3} + 2\pi k, \frac{5\pi}{3} + 2\pi k, \pi + 2\pi k$	15. $\frac{\pi}{3} + 2\pi k, \frac{5\pi}{3} + 2\pi k, \pi + 2\pi k$	16. $0.572 + 2\pi k, 2.570 + 2\pi k$		