

SOLVING TRIG EQUATIONS WS 2Solve over $[0, 2\pi)$.

1. $2\sin^2 x + \sin x = 0$

2. $\tan^2 x = \sqrt{3} \tan x$

3. $\sin x + \sin x \cos x = 0$

4. $\sin^2 x - 3\sin x + 2 = 0$

5. $\cos x = 3\cos x - 2$

6. $\sqrt{2} \cos x = 1$

7. $\sin^2 x - 2\sin x = 3$

8. $2\sqrt{3} + 3\sec x = 0$

9. $3\tan^2 x = \sqrt{3} \tan x$

10. $(\cos^2 x - 1)(\csc x + 1) = 0$

11. $\sin x \tan x = \tan x$

12. $2\cos^2 x - 5\cos x + 2 = 0$

13. $(\tan x - 1)(\sec x - 1) = 0$

14. $\cos x - 2\cos x \sin x = 0$

15. $4\cos^2 x = 4\cos x - 1$

16. $2\tan x \cos x + \tan x = 0$

17. $9\tan^2 x - 3 = 0$

Answers:

1. $0, \pi, \frac{7\pi}{6}, \frac{11\pi}{6}$

2. $0, \pi, \frac{\pi}{3}, \frac{4\pi}{3}$

3. $0, \pi$

4. $\frac{\pi}{2}$

5. 0

6. $\frac{\pi}{4}, \frac{7\pi}{4}$

7. $\frac{3\pi}{2}$

8. $\frac{5\pi}{6}, \frac{7\pi}{6}$

9. $0, \pi, \frac{\pi}{6}, \frac{7\pi}{6}$

10. $\frac{3\pi}{2}$

11. $0, \pi$

12. $\frac{\pi}{3}, \frac{5\pi}{3}$

13. $0, \frac{\pi}{4}, \frac{5\pi}{4}$

14. $\frac{\pi}{2}, \frac{3\pi}{2}, \frac{\pi}{6}, \frac{5\pi}{6}$

15. $\frac{\pi}{3}, \frac{5\pi}{3}$

16. $0, \pi, \frac{2\pi}{3}, \frac{4\pi}{3}$

17. $\frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}$