

Math Analysis & Trig.
Trig. Equations Review Worksheet

Name _____
Date _____

Solve each of the following for $0 \leq x < 2\pi$. NO CALCULATORS ALLOWED ON THIS SECTION.

1. $\sin x = \frac{\sqrt{2}}{2}$

2. $\cos 2x = \frac{\sqrt{3}}{2}$

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

4. $\sec x = -1$

5. $\csc 3x = -2$

6. $\cot 2x = 0$

7. $\sin x = \frac{\sqrt{3}}{2}$

8. $\sec x = -\sqrt{2}$

Solve each of the following for $0 \leq x < 2\pi$. NO CALCULATORS ALLOWED ON THIS SECTION.

9. $\tan^2 x - 1 = 0$

10. $\sec^2 x - 1 = 0$

11. $2\sin^4 x = \sin^2 x$

12. $-2\cos^2 x = 3\cos x + 1$

13. $3\cot^2 x - 1 = 0$

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

15. $2\csc^2 x + 3\csc x - 2 = 0$

16. $2\cos^2 x - 5\cos x + 2 = 0$

CALCULATORS ARE ALLOWED ON THIS SECTION.

Solve each of the following for $0 \leq x < 2\pi$, rounding each answer to TWO decimal places.

17. $3 \tan^2 x - 2 \tan x - 1 = 0$

18. $\sec x = -7$

19. $2 \sin^2 x = -\sin x + 2$

20. $4 \cos^2 x + 5 \cos x + 1 = 0$

21. $x + 5 \sin x = 0$

22. $15x = 7 \sin x + 4$

23. $x = 6 \cos x$

24. $\cos x = \sin x - x$

Answers!!

1. $\frac{\pi}{4}, \frac{3\pi}{4}$
2. $\frac{\pi}{12}, \frac{11\pi}{12}, \frac{13\pi}{12}, \frac{23\pi}{12}$
3. $\frac{\pi}{9}, \frac{4\pi}{9}, \frac{7\pi}{9}, \frac{10\pi}{9}, \frac{13\pi}{9}, \frac{16\pi}{9}$
4. π
5. $\frac{\pi}{18}, \frac{11\pi}{18}, \frac{19\pi}{18}, \frac{23\pi}{18}, \frac{31\pi}{18}, \frac{35\pi}{18}$
6. $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$
7. $\frac{\pi}{3}, \frac{2\pi}{3}$
8. $\frac{3\pi}{4}, \frac{5\pi}{4}$
9. $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$
10. $0, \pi$
11. $0, \pi, \frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$
12. $\frac{2\pi}{3}, \frac{4\pi}{3}, \pi$
13. $\frac{\pi}{3}, \frac{2\pi}{3}, \frac{4\pi}{3}, \frac{5\pi}{3}$
14. $\frac{\pi}{2}, \frac{3\pi}{2}, \frac{\pi}{6}, \frac{5\pi}{6}$
15. $\frac{7\pi}{6}, \frac{11\pi}{6}$
16. $\frac{\pi}{3}, \frac{5\pi}{3}$
17. $.79, 2.82, 3.93, 5.96$
18. $1.43, 4.86$
19. $.90, 2.25$
20. $1.82, 3.14, 4.46$
21. $4.10, 4.90$
22. $.48$
23. 1.34
24. none in that window!