PreCalculus Name _____

Solving More Trig Equations WS

Solve the following equations. For the trig equations, solve over $[0, 2\pi)$. Circle your final answers.

1. $3x^2 + 5x = 0$	2. $x^2 - 3x - 28 = 0$
3. $2x^2 + 3x = 5$	4. $8x^2 = 6x$
5. $2x^2 + 7x + 6 = 0$	6. $3x^2 = 13x - 4$
7. $5 = 10\cos^2 x$	8. $4\sin x = \sqrt{3} + 2\sin x$
9. $3\sin^2 x = \cos^2 x$	10. $\sin x = \sin(-x) + 1$
11. $4\cos x \sin^2 x = \cos x$	12. $\cot^2 x = \sqrt{3}\cot x$
13. $2\cos^2 x - \cos x = 1$	14. $\sin^2 x = 2\cos x + 2$
15. $\sec^2 x = \tan x + 1$	16. $3\cos x + 3 = 2\sin^2 x$
17. $\cot^2 x + \csc^2 x = 3$	18. $2\sin^2 x = 3 - 3\cos x$
19. $3\tan^2 x + 4\sec x = -4$	20. $\sec^2 x = 2\tan x$
21. $3\cos x + \sqrt{2} = \cos x$	22. $2\cos x \csc x = \sqrt{3}\csc x$

PreCalculus

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ANSWERS

1. $0, -\frac{5}{3}$

2. -4, 7

3. $-\frac{5}{2}, 1$

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

5. $-\frac{3}{2}, \quad -2$

6. $\frac{1}{3}, 4$

7. $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$

8. $\frac{\pi}{3}, \quad \frac{2\pi}{3}$

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

10. $\frac{\pi}{6}, \frac{5\pi}{6}$

11. $\frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}, \frac{\pi}{2}, \frac{3\pi}{2}$

12. $\frac{\pi}{2}, \frac{3\pi}{2}, \frac{\pi}{6}, \frac{7\pi}{6}$

13. $0, \frac{2\pi}{3}, \frac{4\pi}{3}$

14. π

15. $0, \pi, \frac{\pi}{4}, \frac{5\pi}{4}$

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

17. $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$

18. $0, \frac{\pi}{3}, \frac{5\pi}{3}$

19. π

20. $\frac{\pi}{4}, \frac{5\pi}{4}$

21. $\frac{3\pi}{4}, \frac{5\pi}{4}$

22. $\frac{\pi}{6}, \frac{11\pi}{6}$