NAME _____

MAT 182 – Homework 10
Sections 4.3 and 4.4

Directions: Show all work and write your final answer in the space provided.

1. Solve (in radians): $\sqrt{3}\tan tan\,(3x) + 1 = 0$ 1. _____

2. Solve $\tan tan\,(2x) = -\sqrt{3}$ in the interval [0°, 360°). 2. _____

3. Solve $2\sin(2x) + 1 = 0$ in the interval $[0, 2\pi)$. 3. _____

4. Solve $2\cos cos\,(2x) + \sqrt{3} = 0$ in the interval [0°, 360°). 4. _____

5. Solve $3\sin^2 x = \sin x$ in the interval $[0, 2\pi)$. Round to the nearest tenth. 5. _____

6. Solve $\cos x + \cos(-x) = 1$ in the interval $[0, 2\pi)$. 6. _____

7. Solve $9\sin^2 x + 12\sin x + 4 = 0$ in the interval [0°, 360°). Round to the nearest tenth. 7. _____

8. Solve $2\cos cos\,(2x) - \sqrt{3} = 0$ in the interval $[0, 2\pi)$. 8. _____

9. Solve $2\sin(2x) - 1 = 0$ in the interval [0°, 360°). 9. _____

10. Solve $2\cos^2 x = 3\cos x$ in the interval $[0, 2\pi)$. 10. _____

11. Solve (in degrees): $\cos(2x) = -0.22$. Round to the nearest tenth. 11. _____

12. Solve $\sin(-x) = \cos x$ in the interval $[0, 2\pi)$. 12. _____

13. Solve $\cos(3x) + 1 = 0$ in the interval $[0, 2\pi)$. 13. _____

14. Solve $5\sin^2 x - \sin x = \cos^2 x$ in the interval $[0, 2\pi)$. Round to the nearest tenth. 14. _____

15. Solve $\sin(5x) = 1$ in the interval [0°, 360°). 15. _____

16. Solve $3\sec^2 x \tan x = 4\tan x$ in the interval $[0, 2\pi)$. 16. _____

17. Solve (in degrees): $\tan(4x) = -3.2$. Round to the nearest tenth. 17. _____

18. Solve $2\tan^2 x = \tan x$ in the interval $[0, 2\pi)$. Round to the nearest tenth. 18. _____

19. Solve $\sqrt{2}\cos cos\left(\frac{x}{2}\right) - 1 = 0$ in the interval $[0, 2\pi)$. 19. _____

20. Solve $2\cos^2 x + 3\cos x = -1$ in the interval $[0, 2\pi)$. 20. _____

21. Solve $3\sin(2x) = \cos(2x)$ in the interval [0°, 360°). Round to the nearest tenth. 21. _____

22. Solve (in degrees): $\csc(3x) = -1.4$. Round to the nearest tenth. 22. _____

23. Solve $\tan^2 x - \cot^2 x = 0$ in the interval $[0°, 360°)$. 23. _____

24. Solve $\csc(5x) + 2 = 0$ in the interval $[0°, 360°)$. 24. _____

25. Solve $4\sin^3 x = 5\sin x$ in the interval $[0, 2\pi)$. 25. _____

26. Solve $\sin(2x) - \sin x \cos x = \cos x$ in the interval $[0, 2\pi)$. 26. _____

27. Solve $\sec sec\,(3x) + 1 = 0$ in the interval $[0°, 360°)$. 27. _____

28. $\sin^2 x - \cos^2 x = 0$ in the interval $[0, 2\pi)$. 28. _____

29. Solve $\sqrt{3}\cot cot\left(\frac{x}{3}\right) - 3 = 0$ in the interval $[0, 2\pi)$. 29. _____

30. Solve $2\sin^2 x + \sin x = 1$ in the interval $[0, 2\pi)$. 30. _____

31. Solve $\cot cot\,(4x) + \sqrt{3} = 0$ in the interval $[0°, 360°)$. 31. _____

32. Solve $\tan^2 x - 2\tan x - 1 = 0$ in the interval $[0°, 360°)$. Round to the nearest tenth. 32. _____

33. Solve (in degrees): $\cot(x/2) = 4.7$. Round to the nearest tenth. 33. _____

34. Solve $\cot^2 x - 4\cot x + 2 = 0$ in the interval $[0°, 360°)$. Round to the nearest tenth. 34. _____

35. Solve $12\cos^2 x + \cos x - 6 = 0$ in the interval $[0°, 360°)$. Round to the nearest tenth. 35. _____