

Trig Chapter 11 Practice Test 3

Name: _____

Solve each equation using the domain of $(0^\circ, 360^\circ]$. Do your work on a separate piece of paper.

Put answers in the blank to the left of the questions.

_____ 1. $(\cos x - 1)(\sin x + 1) = 0$

_____ 2. $-2 \cos x = \sqrt{3}$

_____ 3. $(2 \sin x + 1)(\cos x - 1) = 0$

_____ 4. $-2 \cos x = 0$

_____ 5. $(2 \sin x + 1)(-2 \sin x + \sqrt{3}) = 0$

_____ 6. $-2 \sin x = -\sqrt{2}$

_____ 7. $2 \sin^2 x + 11 \sin x + 5 = 0$

_____ 8. $\sin x \bullet \tan x = 0$

_____ 9. $7 \cos^2 x + 18 \cos x + 11 = 0$

_____ 10. $\sin^2 x - 1 = 0$

Remember that $\left\{ \begin{array}{l} \sin 2\theta = 2 \sin \theta \bullet \cos \theta \\ \cos 2\theta = \cos^2 \theta - \sin^2 \theta \\ \qquad = 2 \cos^2 \theta - 1 \\ \qquad = 1 - 2 \sin^2 \theta \end{array} \right.$

11. Given that $\cos \theta = \frac{12}{37}$ and that θ is in the first quadrant, find A.) $\cos 2\theta$ B.) $\sin 2\theta$

$\cos 2\theta =$ _____ $\sin 2\theta =$ _____

12. Given that $\tan \theta = \frac{20}{21}$ and that θ is in the first quadrant, find A.) $\cos 2\theta$ B.) $\sin 2\theta$

$\cos 2\theta =$ _____ $\sin 2\theta =$ _____

13. $\log_3 9 =$ _____

14. $\log_5 625 =$ _____

15. $\log_2 2 =$ _____

16. $\log_3 3 =$ _____

17. $\log_5 25 =$ _____

18. $\log_2 128 =$ _____

19. $\log_{10} 10,000 =$ _____

20. $\log_8 64 =$ _____

21. $\log_9 729 =$ _____

22. $\log_2 \frac{1}{32} =$ _____

23. $\log_5 \frac{1}{125} =$ _____

24. $\log_{\frac{1}{2}} \frac{1}{16} =$ _____

25. $\log_8 64 =$ _____

26. $\log_4 16 =$ _____

27. $\log_1 7 =$ _____

Solve for x.

_____ 28. $\log_4 x = 3$

_____ 29. $\log_2 x = 8$

_____ 30. $\log_4 64 = x$

_____ 31. $\log_x 49 = 2$

_____ 32. $\log_7 x = 2$

_____ 33. $\log_2 32 = x$

_____ 34. $\log_x 81 = 2$

_____ 35. $\log_x 1 = 7$

_____ 36. $\log_9 x = \frac{1}{2}$

_____ 37. $\log_2 \frac{1}{8} = x$

_____ 38. $\log_5 \frac{x}{3} = 2$

_____ 39. $\log_2 \frac{x+1}{2} = 6$

_____ 40. $\log_2 \frac{x-2}{2} = 5$

_____ 41. $\log_x \frac{1}{16} = 2$

_____ 42. $\log_2 \frac{2x-1}{2} = 3$

_____ 43. $6^x = 350$

_____ 44. $5^x = 888$

_____ 45. $5^x = 360$

_____ 46. $34^x = 80$

_____ 47. $5^x = 3475$

_____ 48. $2^x = 1$

_____ 49. $8^x = 16$

_____ 50. $61^x = 44$

_____ 51. $24^x = 755$

_____ 52. $62 + 3^x = 990$

_____ 53. $8 - 6^x = -49$

_____ 54. $2^x = 1024$

_____ 55. $2^x - 20 = 70$

_____ 56. $3^x + 55 = 99$

_____ 57. $2^{x+2} = 818$

_____ 58. $8^{x-2} = 300$

_____ 59. $64 - 3^x = 183$

_____ 60. $66 - 2^x = -55$