

Pre-Calculus

Final Exam Review

Unit 1: Matrices

1. 2,4
2. (5, -1, 2)
3. $\begin{bmatrix} -6 & 18 \\ 9 & -9 \end{bmatrix}$
4. $\begin{bmatrix} 39 & 10 & 27 \\ 18 & 9 & 35 \end{bmatrix}$

5. $\begin{bmatrix} -18 & 18 \\ 0 & -8 \\ -6 & 2 \end{bmatrix}$

6. $\begin{bmatrix} -4 & 6 \\ 12 & 17 \\ -12 & -17 \end{bmatrix}$

7. $\begin{bmatrix} 7 & -6 \\ 7 & -1 \end{bmatrix}$

8. Center: (1,-4); V: (1,0) (1,8) CV(4,-4), (-2,-4) Foci (1, -4 ±√7)

9. $\frac{(x-2)^2}{25} + \frac{(y)^2}{21} = 1$

10. $\frac{(x-1)^2}{16} - \frac{(y+1)^2}{9} = 1$; center (1,-1)
vertices (1±4, -1); Foci (1±5, -1)

11. $\frac{(x+2)^2}{64} - \frac{(y-3)^2}{36} = 1$

12. Omit

13. $(x - 3) = -24(y + 3)^2$

14. $\sin x = \frac{4}{5}, \csc x = \frac{5}{4}, \cos x = \frac{3}{5}, \sec x = \frac{5}{3}, \tan x = \frac{4}{3}, \cot x = \frac{3}{4}$

15. $\sin x = \frac{4}{5}, \csc x = \frac{5}{4}, \cos x = -\frac{3}{5}, \sec x = -\frac{5}{3}, \tan x = -\frac{4}{3}, \cot x = -\frac{3}{4}$

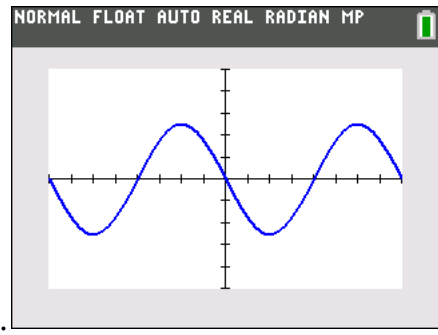
16. $\frac{19\pi}{6}, \frac{-5\pi}{6}$

17. $-\frac{\sqrt{2}}{2}$

18. $-\frac{\sqrt{2}}{2}$

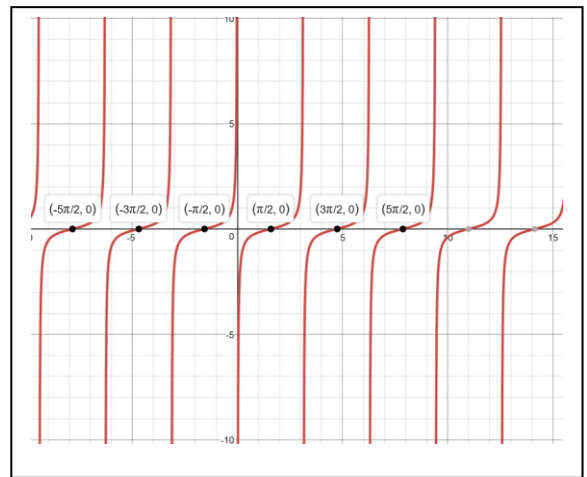
19. 37.09 ft.

20. -1.1507



21. period-
 2π ; amplitude: $\frac{5}{2}$

22.



23. $\frac{\pi}{4}; -\frac{\pi}{3}$ or -60°

24. $\frac{1}{2}$

25. $\frac{\sqrt{5}}{3}$

26. See graph

27. See graph

$$28. \frac{\sqrt{2} + \sqrt{6}}{4}$$

$$29. \frac{\sqrt{10}}{10}$$

$$30. 1 + \cot x$$

$$31. x = \frac{2\pi}{3}, \frac{4\pi}{3}, 0, 2\pi$$

$$32. x = \frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}$$

$$33. x = \frac{\pi}{2}, \frac{3\pi}{2}, \frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$$

$$34. x = 0, 2\pi, \pi$$

$$35. x = \frac{\pi}{6}, \frac{11\pi}{6}, \frac{\pi}{2}$$

$$36. -\cos x$$

$$37. \sec x + \tan x$$

$$38. 2\csc^2 x$$

$$39. 13.99$$

$$40. 24.99 = 25^\circ$$

$$41. A = 31.48; B = 23.6^\circ; C = 28.4^\circ$$

$$42. A = 33.1^\circ, B = 57.9^\circ, C = 89^\circ$$

$$43. A = 32^\circ, B = 118^\circ, C = 30.03^\circ$$

$$44.$$