Pre-Calculus

Final Exam Review

Unit 1: Matrices

1. 2,4
2. (5, -1, 2)
3. $\left[\begin{matrix}-6&18\\9&-9\end{matrix}\right]$
4. $[\begin{matrix}39&10&27\\18&9&35\end{matrix}]$
5. $\left[\begin{matrix}-18&18\\0&-8\\-6&2\end{matrix}\right]$
6. $\left[\begin{matrix}-4&6\\12&17\\-12&-17\end{matrix}\right]$
7. $\left[\begin{matrix}7&-6\\7&-1\end{matrix}\right]$
8. Center: (1,-4); V: (1,0) (1,8) CV(4,-4), (-2,-4) Foci (1, -4 ±$\sqrt{7})$
9. $\frac{(x-2)^{2}}{25}+\frac{(y)^{2}}{21}=1$
10. $\frac{(x-1)^{2}}{16}-\frac{\left(y+1\right)^{2}}{9}=1$; center (1,-1) vertices (1±4, -1); Foci (1±5, -1)
11. $\frac{(x+2)^{2}}{64}-\frac{\left(y-3\right)^{2}}{36}=1$
12. Omit
13. $\left(x-3\right)=-24(y+3)^{2}$
14. $sinx=\frac{4}{5}, cscx=\frac{5}{4}, cosx=\frac{3}{5}, secx=\frac{5}{3}, tanx=\frac{4}{3}, cotx= \frac{3}{4}$
15. $sinx=\frac{4}{5}, cscx=\frac{5}{4}, cosx=-\frac{3}{5}, secx=-\frac{5}{3}, tanx=-\frac{4}{3}, cotx=- \frac{3}{4}$
16. $\frac{19π}{6}, \frac{-5π}{6}$
17. $-\frac{\sqrt{2}}{2}$
18. $-\frac{\sqrt{2}}{2}$
19. 37.09 ft.
20. -1.1507
21. period-2π; amplitude: $\frac{5}{2}$



1. $\frac{π}{4}$; $-\frac{π}{3} or-60°$
2. $\frac{1}{2}$
3. $\frac{\sqrt{5}}{3}$
4. See graph
5. See graph
6. $\frac{\sqrt{2}+\sqrt{6}}{4}$
7. $\frac{\sqrt{10}}{10}$
8. 1+cotx
9. $x=\frac{2π}{3}, \frac{4π}{3}, 0, 2π$
10. $x=\frac{π}{6}, \frac{5π}{6}, \frac{7π}{6}, \frac{11π}{6}$
11. $x=\frac{π}{2}, \frac{3π}{2}, \frac{π}{4}, \frac{3π}{4}, \frac{5π}{4}, \frac{7π}{4}$
12. $x=0, 2π, π$
13. $x=\frac{π}{6}, \frac{11π}{6}, \frac{π}{2}$
14. -cosx
15. Secx + tanx
16. $2csc^{2}x$
17. 13.99
18. $24.99=25°$
19. A=31.48; B=$23.6°;C=28.4°$
20. $A=33.1°, B=57.9°, C=89°$
21. $A=32°, B=118°, C=30.03°$