

Pre-Calculus 2 Final Exam Review Guide Tuesday, May 22, 2007

1. Solve:
$$\begin{cases} 5x + 2y - z = -7 \\ x - 2y + 2z = 0 \\ 4y + z = 17 \end{cases}$$
2. In $\triangle ABC$, $b = 47$, $c = 29$, $A = 50^\circ$. Find the area to the nearest 100th.
3. Write, using standard summation notation: $13 + 16 + 19 + \dots + 202$
4. Write the Standard Form Equation given: 2 Vertices $(4, 9)$, $(4, -21)$; 2 Foci $(4, 3)$, $(4, -15)$.
5. Express $1.232323\overline{23}$ as a reduced fraction of integers.
6. Write the Standard Form Equation of a Parabola given: $F(6, 4)$; Dir: $y = -2$
7. Convert $4 - 4\sqrt{3}i$ to polar form exactly. (NO Decimals)
8. Use the interval $[0, 2\pi]$: $\sec(\arctan \frac{2}{3}) =$
9. Find the work done by force $B = \langle -3, 9 \rangle$ that moves a mass from point $(-1, -3)$ to point $(-8, 6)$.
10. Exactly Find $(10 \text{ cis } 7) \div (2 \text{ cis } 5)$
11. Write the recursive form for: 2, 4, 10, 28, 82, 244, ...
12. Solve for X:
$$\begin{bmatrix} 3 & 7 \\ 8 & 9 \end{bmatrix} X + \begin{bmatrix} 2 & 7 \\ 6 & 9 \end{bmatrix} = \begin{bmatrix} 3 & 6 \\ 9 & 6 \end{bmatrix}$$
13. Write the partial fraction decomposition for: $\frac{3x^2 + 32x - 75}{x^3 + 2x^2 - 15x}$
14. How many 6 card hands are possible with 3 from 1 suit and 3 from a different suit?
15. Two cards are drawn from a standard deck of cards. In how many ways can both be black or both be face cards.
16.
$$\begin{bmatrix} 3 & 5 & 7 \\ 2 & -6 & 1 \end{bmatrix} * \begin{bmatrix} 5 & x \\ -8 & 7 \\ 2 & y \end{bmatrix} =$$
17. Use the interval $[0, 2\pi]$: $\sin^{-1}(\sin \frac{\pi}{3}) =$
18. Find the determinant of:
$$\begin{bmatrix} 1 & -2 & 5 \\ 2 & x & 1 \\ 3 & 4 & 6 \end{bmatrix}$$
19. How many distinguishable ways can the letters of the word PROBABILITIES be arranged?
20. In $\triangle ABC$, $a = 10$, $b = 12$, $c = 15$. Find the area to the nearest 100th.
21. In $\triangle ABC$, $A = 36^\circ$, $B = 77^\circ$, $a = 521$. Find b to the nearest 100th.
22. $125 + 50 + 20 + 8 + \dots =$
23. $5 + 8 + 11 + \dots + 854 =$
24. Write in simplified form, the 31st term of the expansion: $(x + y)^{40}$.
25. Find to 3 decimal places, the magnitude of vector $\langle 9, -4, 5 \rangle$.
26. In $\triangle ABC$, $c = 30$, $a = 60$, $C = 17^\circ$. Find A to the nearest 100th.