Quizzes and Answers.

Quiz 2. 24 January 2007

1. Calculate the Taylor Polynomial $P_3(x)$ for the function $f(x) = (1 + x)^{1/2}$.

2. Use $P_3(x)$ to approximate $\sqrt{2}$, expressing your answer as a fraction. No decimals!

Quiz 3. 19 February 2007

Let $v = \begin{pmatrix} 1 \\ 1 \\ 2 \end{pmatrix}$ and $w = \begin{pmatrix} -2 \\ 2 \\ 6 \end{pmatrix}$. Calculate

a. The squared length of $v$.

b. The dot product $v \cdot w$.

c. A real number $\alpha$ so that $v - \alpha w$ is perpendicular to $v$.

Quiz 5. 5 March 2007

Calculate the inverse of the matrix $\begin{pmatrix} 1 & 0 & 0 \\ 2 & 3 & 0 \\ 4 & 9 & 1 \end{pmatrix}$.

Quiz 6. 9 April 2007

Calculate the determinant of the matrix $\begin{pmatrix} 1 & 2 & 0 & 0 \\ 0 & 3 & 4 & 0 \\ 2 & 4 & 5 & 0 \\ 0 & 0 & 0 & 3 \end{pmatrix}$. 
Math 1502D
Spring 2007
A. D. Andrew

ANSWERS.

Quiz 2. 24 January 2007

\[ P_3(x) = 1 + \frac{1}{2}x - \frac{1}{8}x^2 + \frac{1}{16}x^3 \]

\[ P_3(1) = \frac{23}{16} \]

Quiz 3. 19 February 2007

\[ \|v\|^2 = 6, \quad v \cdot w = 12, \quad \alpha = \frac{1}{2} \]

Quiz 5. 5 March 2007

\[
\begin{pmatrix}
1 & 0 & 0 \\
-\frac{2}{3} & \frac{1}{3} & 0 \\
\frac{2}{3} & \frac{1}{3} & 0 \\
2 & -3 & 1
\end{pmatrix}
\]

Quiz 6. 9 April 2007

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