MATH 333 – Section 002 – Quiz 5

You may work with other class members on this quiz, but you may not receive assistance from people not in MATH 333 (Section 002). You must show all of your work to receive full credit. Do all your work on other sheets of paper and be sure to staple all the pieces of paper together or YOU WILL GET A ‘ZERO’ ON THE QUIZ. Do not use decimal approximations unless asked to do so. Your work on this quiz must be handed in by Friday, 2 March 2007 at 1340. GOOD LUCK!

1) Find the solution of the initial value problem

\[
\begin{align*}
\text{y''} + 36y &= 0 \\
y(0) &= 2 \\
y'(0) &= -3
\end{align*}
\]

Without using technology, sketch the graph of your solution function, showing all salient features.

2) Find the general solution of the differential equation

\[y'' - 4y' + 53y = 3t^2\]

3) Find the general solution of the differential equation

\[y'' - 5y' - 6y = e^{-8t}\]

4) Find the general solution of the differential equation

\[y'' + 6y' + 9y = te^{-3t}\]