

Math 2A Quiz 8

Fri Mar 11, 2016 DUE Wed Mar 16, 2016 @ 8:30am

NAME YOU ASKED TO BE CALLED IN CLASS: _____

SCORE: _____ / 30 POINTS

- ▶ Sign below to confirm that the work shown on this quiz is strictly your own work.
- ▶ You may have consulted your textbook and your notes,
- ▶ but you did NOT consult other people, websites, software or any other sources of help.

SIGNATURE: _____

- 1. Show proper calculus level work to justify your answers**
- 2. Simplify all final answers**
- 3. Do NOT use hyperbolic functions in your work**

Find the Laplace transform of $f(t) = t^2 e^{3t} \sin t$. Write your final answer as a single fraction.

SCORE: _____ / 4 PTS

Find the inverse Laplace transform of $\frac{25e^{-2s} - 25se^{-3s}}{(s-1)^2(s+4)}$.

SCORE: _____ / 8 PTS

Use Laplace transforms to solve the initial value problem $y'' + 4y' + 8y = g(t)$, $y(0) = 5$, $y'(0) = -6$ SCORE: ____ / 18 PTS
where $g(t)$ is the function whose graph is shown on the right.

NOTE: Each “piece” of $g(t)$ is linear.

