Because the study guide from Spring 2013 did not contain material from Chapters 7 and 8, I am suggesting that you work the integrals below before Monday. Hand these in for 20 points credit. Also pay attention to volumes, areas, arc-length, surface area, and applications of the integral \textit{vis-a-vis} lifting buckets, draining tanks, and compressing springs.

1. \[ \int e^{2x} \cos 3x \, dx \]
2. \[ \int \sin^3 3x \, dx \]
3. \[ \int_0^\pi \sin^2 x \, dx \]
4. \[ \int x \ln (x) \, dx \]
5. \[ \int_0^1 \arctan x \, dx \]
6. \[ \int \frac{1}{(x^2 + 25)^2} \, dx \]
7. \[ \int (x^2 - 9)^{1/2} \, dx \]
8. \[ \int \frac{1}{(x - 1)^2(x + 1)} \, dx \]
9. \[ \int \frac{1}{(x - 1)(x - 4)} \, dx \]
10. \[ \int_0^\infty 2xe^{-x^2} \, dx \]