

Physics 211 Math Review Sheet

Due: Fri. Aug. 27

Name:

Evaluate the following derivatives and integrals for some practice. Some of you have not had much experience with integrals yet, but try your best. This will not be graded. It is primarily for me to get a feel for your comfort level in calculus. Please make sure to show your work.

1. $\frac{d}{dx} (12x^2 - 3x + 2)$

6. $\int 8x^2 + 3x - 12 dx$

2. $\frac{d}{dx} \left(\frac{5}{x} + \sqrt{x} - 0.3x^3 \right)$

7. $\int_0^{2\pi} \sin(x) dx$

3. $\frac{d}{dx} \left(\frac{x^2}{\sqrt{x^2}} \right)$

8. $\int_0^{10} 10 \exp\{-2x\} dx$

4. $\frac{d}{dx} (\sin(3x))$

9. $\int_1^5 \frac{dx}{\sqrt{9+x^2}}$

5. $\frac{d}{dx} (\cos(2x) \exp\{-3x\})$

10. $\int_{-3}^3 2x^2 dx$