

## Fall 2005 Math 152

### Week in Review 4

*courtesy: Amy Austin*

(covering sections 8.2, 8.3, 8.4)

#### Section 8.2

1. Compute  $\int \cos^2 x \sin^3 x \, dx =$

2. Compute  $\int \cos^5 x \, dx =$

3. Compute  $\int_0^{\frac{\pi}{2}} \sin^2 x \, dx =$

4. Compute  $\int \tan^3 x \sec^5 x \, dx =$

5. Compute  $\int_0^{\frac{\pi}{4}} \tan^2 x \sec^4 x \, dx =$

#### Section 8.3

6.  $\int x^3 \sqrt{4 - x^2} \, dx =$

7.  $\int_0^2 \frac{x^3}{\sqrt{x^2 + 4}} \, dx =$

8.  $\int \frac{1}{x^2 \sqrt{16x^2 - 9}} \, dx =$

9.  $\int \frac{dx}{\sqrt{x^2 + 4x + 8}} \, dx =$

10.  $\int \sqrt{1 - 4x^2} \, dx =$

#### Section 8.4

11.  $\int \frac{dx}{x(x^2 + 2x + 1)}$

12.  $\int \frac{3x^2 - 4x + 5}{(x - 1)(x^2 + 1)} \, dx$

13.  $\int \frac{x^3 + 2x + 1}{x(x + 4)} \, dx$