

## Quiz 11 Solution - Math 165

Name: \_\_\_\_\_

Show all work to receive maximum credit for each problem. You may not use your book, notes, or a calculator on this quiz. Give exact answers, not decimal approximations. This quiz is worth 25 points.

1. (5 points) Evaluate  $\cos^{-1}(\cos(2\pi))$

**Solution:** 0

2. (5 points) Evaluate  $D_x[6^{x^3}]$

**Solution:**  $3 \ln(6)x^2 6^{x^3}$

3. (5 points) Evaluate  $D_x[\sin^{-1}(5x)]$

**Solution:**  $\frac{5}{\sqrt{1 - (5x)^2}}$

4. (5 points) Evaluate

$$\int x 10^{x^2} dx$$

**Solution:**  $\frac{1}{2 \ln(10)} 10^{x^2} + C$

5. (5 points) Evaluate

$$\int \frac{x^2}{1 + x^6} dx$$

(Hint: Let  $u = x^3$ )

**Solution:**  $\frac{1}{3} \tan^{-1}(x^3) + C$