

## Math 193 – Test 1: Version B

February 2, 2018

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

Instructor: Patricia Wrean

**Total: 25 points**

---

Integrate the following.

1. (3 points)  $\int \frac{5z}{(1-z^2)^2} dz$

2. (3 points)  $\int \frac{e^{\cos \theta}}{\csc \theta} d\theta$

3. (4 points)  $\int \frac{24}{x^2 - 8x} dx$

4. (4 points)  $\int \frac{dx}{x^2 - 8x + 25}$

5. (4 points)  $\int e^{2x} \sin x \, dx$

6. (4 points) Find the two first partial derivatives for the following function.

$$f(x, y) = \frac{\ln x}{y} - 4\sqrt{y}$$

7. (3 points) Using polar coordinates, set up BUT DO NOT EVALUATE the double integral for the volume of the solid with vertical sides, a top surface of  $z = 6 - xy$  and a base in the  $xy$ -plane consisting of a circle of radius 2.

Hint: Use  $V = \iint z \, dA$ .

