

Answer Key

Math 132: Discussion Session: Week 5

Directions: In groups of 3-4 students, work the problems on the following page. Below, list the members of your group and your answers to the specified questions. Turn **this paper** in at the end of class. You do not need to turn in the question page or your work.

Additional Instructions: It is okay if you do not completely finish all of the problems, but you should solve most of the problems. Also, each group member should work through each problem, as similar problems may appear on the exam.

Group Members

Group Answers

6.3: Shell Method

1. a. The volume is: 16π
- b. The volume is: $\frac{32\pi}{5}$
- c. The volume is: $\frac{1}{3}\pi a^3 + \pi a^2$
- d. The volume is: $\frac{128\pi}{3}$

6.5: Average Value

1. The average value is: -4
2. The average value is $\frac{e^n - e^{-n}}{2n}$

7.1: Integration by Parts

1. a. The integral equals $\frac{3 \ln 3 - 2}{(\ln 3)^2}$
- b. The integral equals $x[(\ln x)^2 - 2 \ln x + 2] + C$
- c. The integral equals $\frac{e^x + 1}{2}$
- d. The integral equals $2e^{\sqrt{x}}(\sqrt{x} - 1) + C$