

Math 1271 Quiz 11

May, 1, 2014

Name: _____

TA: _____

NO CALCULATORS. NO HANDHELD DEVICES. NO BOOKS OR REFERENCE MATERIALS OF ANY KIND.

Time allowed: 20 minutes; Grader : Amit Sharma. Good luck!

1. (35 points) Find the area of the region enclosed by the following two curves by writing a definite integral and evaluating it

$$y = 1 - x^2; \quad y = x^2 - 1.$$

2. (15 points) State whether the following statement is true or false:
If we want use the cylindrical shells method to compute the volume of the solid generated by rotating the area enclosed by the curves $y = x^2$, $x = 0$ and $y = 16$ about the x -axis, then our limits of integration would lie on the y -axis.
3. (15 points) State whether the following statement is true or false:
The volume of the solid generated by rotating the area enclosed by the x -axis, $x = 0$, $x = r$ and the line $y = 2$, about the y -axis, is πr^2 .

PLEASE SEE THE OTHER SIDE FOR MORE PROBLEMS.

4. (35 points) Find the volume of the solid generated by rotating the area enclosed by the curves $y = \sqrt{x} + 1$, $y = 0$, $x = 0$ and $x = 1$, about the line $x = 0$. No need to work out arithmetic.

PLEASE SEE THE OTHER SIDE FOR MORE PROBLEMS.