King Fahd University of Petroleum & Minerals
Department of Mathematical Sciences
Math 102-05, Quiz # 2, Semester 141

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Name: Student ID: SR:

Q1) Find the area of the region enclosed by the curves $x - y^2 = 0$ and $x + 2y^2 = 3$.

Q2) The base of the solid is the region bounded by the curves $y = x^2$ and $y = \sqrt{x}$. The cross-sections of the solid perpendicular to the x-axis are circular disks. Find the volume of the solid.

Q3) Set up, **but do not evaluate**, an integral for the volume of the solid obtained by rotating the region bounded by the curves $y = \sqrt{x-1}$ and $y = x - 1$ about the line $x = 2$ using:

a) The cross-section area method (disk or washer method)

b) The cylindrical shell method.