MATH 275 – Section 002 – Quiz 9

You may work with other class members on this quiz, but you may *not* receive assistance from people not in MATH 275 (Section 002). You must show all of your work to receive full credit. Do all your work on other sheets of paper and be sure to staple all the pieces of paper together or YOU WILL GET A 'ZERO' ON THE QUIZ. Do not use decimal approximations unless asked to do so. Your work on this quiz must be handed in by Monday, 5 April 2004 at 12:40 p.m. GOOD LUCK!

1) A lamina is in the shape of a quarter-circle of radius a. The density at any point of the lamina is proportional to the distance from the point to the perimeter of the circle. How far is the center of mass of the lamina from the center of the circle?

2) Find the surface area of the portion of the sphere

$$x^2 + y^2 + z^2 = 25$$

that lies between the planes $z = 3$ and $z = 4$.

3) Find the volume of the solid bounded by the surfaces $x = 0$, $y = 0$, $z = 0$, and $6x + 3y + z = 12$.