

Problem Set 5 Calculus 3 Due 10/22/2004

You are encouraged to work in groups of two to four on this assignment and make a single group submission. Each problem is worth 5 points. For full credit indicate clearly how you reached your answer. All work must be legible and submitted on clean paper without ragged edges.

1. Do §16.2 #40.
2. Do §16.3 #40.
3. Generalize §16.3 #40 to a tetrahedron with edges of lengths a , b , and c .
4. Suppose a right circular cone with its height equal to its base radius r (situated with its circular base centered at the origin in the xy plane) is cut with the vertical plane $x = r/2$. What is the ratio of the larger piece's volume to the smaller piece's volume?