

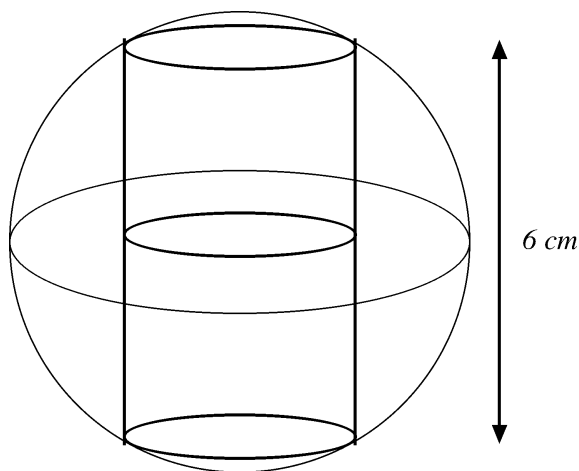
Mathematics 235H – Linear algebra II: Vector spaces
TRENT UNIVERSITY, Winter 2008

Assignment #7

Due on Tuesday, 4 March, 2008.

The hole thing

1. A cylindrical hole 6cm long is cut through a sphere. What is the volume of the part of the sphere that remains? [5]



2. A carpenter, working with a saw, wishes to cut a wooden cube, thirty centimetres on a side, into 27 ten-centimetre cubes. This can easily be done by making six cuts through the cube, keeping the pieces together in the cube shape. Can the carpenter reduce the number of necessary cuts by rearranging the pieces after each cut? If so, how? If not, why not? [5]