Name: _____ Sort #: _____

Worksheet 14

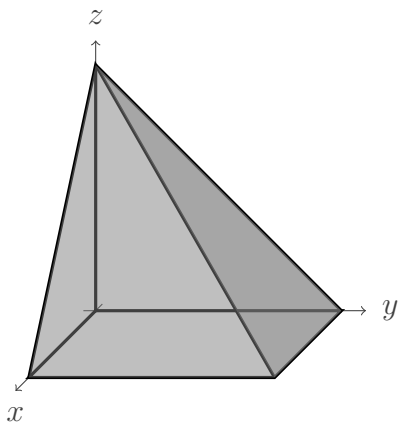
Triple Integrals and Surface Area MATH 2210, Fall 2018

1. Find the area of the surface given by $f(x, y) = \ln|\sec(x)|$ over the region

$$R = \{(x, y) : 0 \leq x \leq \frac{\pi}{4},\ 0 \leq y \leq \tan x\}$$

In the problems 2 to 4, E is the pyramid in the first octant bounded by the planes $2x+z=4$ and $y+z=4$.

2. Compute the volume of E using triple integral(s) in the order $dx\,dy\,dz$.



3. Compute the volume of E using triple integral(s) in the order $dz\,dy\,dx$.

4. Compute the volume of E using triple integral(s) in the order $dy\,dz\,dx$.