

Show all work. 5 points each.

1) Set up the integral for evaluating  $\iiint_E x^2 e^y dV$  where E is bounded by the parabolic cylinder  $z = 1 - y^2$  and the planes  $z = 0$ ,  $x = 1$  and  $x = -1$

2) Change the  $\iiint_E \sqrt{x^2 + y^2} dV$  into an integral using cylindrical coordinates, including limits of integration for the integration order  $dzdrd\theta$ , where E is bounded by the cylinder  $x^2 + y^2 = 16$  and the planes  $z = -5$ , and  $z = 4$

Figures for #1 Note: same figure just rotated.

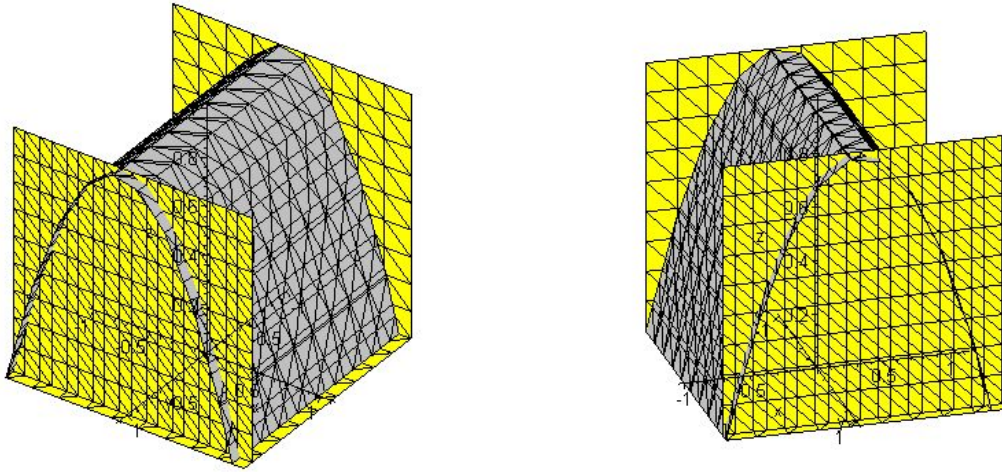


figure for #2

