

## 12 For lecture on 11/12

1. Evaluate  $\iint_D xy dA$ , where  $D$  is the triangle region with vertices  $(0, 1)$ ,  $(1, 2)$ ,  $(4, 1)$ .
2. Find Volume of solid.
  - (a) Tetrahedron in first octant bounded by coordinate planes and  $z = 7 - 3x - 2y$ .
  - (b) Use a double integral to determine the volume of the region bounded by  $z = 6 - 5x^2$  and the planes  $y = 2x$ ,  $y = 2$ ,  $x = 0$  and the  $xy$ -plane.
  - (c) Solid inside both the sphere  $x^2 + y^2 + z^2 = 3$  and above paraboloid  $2z = x^2 + y^2$ .