11 For lecture on 11/7

1. Evaluate the integrals.
   (a) $\int_0^2 \int_0^x (x+2y)dydx$.
   (b) $\int_0^1 \int_{1-x}^{1+x} (24x^2+4y)dydx$.
   (c) $\iint_D xydA$ where D is the triangle with vertices (0,0),(6,0),(0,1).
2. Compute the solid under the graph of $f(x,y) = 3+2x^2+7y$ over the rectangle $R = \{(x,y)|1 \leq x \leq 3, 0 \leq y \leq 1\}$.
3. Reverse order of integration.
   (a) $\int_0^1 \int_x^{2x} e^{y-x}dydx$.
   (b) $\int_0^{2\sqrt{3}} \int_{y^2/6}^{\sqrt{16-y^2}} 1dxdy$.
   (c) $\int_0^7 \int_{x^2-6x}^{x} f(x,y)dydx$.
   (d) $\int_1^2 \int_x^{x^3} f(x,y)dydx + \int_2^8 \int_x^8 f(x,y)dydx$.
4. Evaluate the integral by reversing the order of integration.

$$\int_0^1 \int_{7y}^7 e^{x^2} dxdy.$$