

1. Evaluate  $\int_0^1 \int_y^1 e^{x^2} dx dy$       *HINT: Reverse the order of integration.*
2. Let  $W$  be the solid cone bounded by  $z = \sqrt{x^2 + y^2}$  and  $z = 2$ . For each integral below, decide *without calculating its value* whether the integral is positive, negative, or zero.
  - (a)  $\int_W (z - \sqrt{x^2 + y^2}) dV$
  - (b)  $\int_W y dV$