1. Evaluate $\displaystyle\int_0^1 \int_y^1 e^{x^2}\, dx\, dy$ *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) $\displaystyle\int_W \left(z - \sqrt{x^2 + y^2}\right) dV$

(b) $\displaystyle\int_W y\, dV$