1. Find the volume below the surface $z = 1 + x + y$ and above the rectangle $R = \{(x, y)|0 \leq x \leq 2, 0 \leq y \leq 3\}$ in the xy-plane.

2. Find the volume below the surface $z = 1 + x + y$ and above the region R in the xy-plane bounded by the graphs $x = 1, y = 0, y = x^2$.

3. Find the volume below the surface $z = e^{-x^2}$ and above the triangle R in the xy-plane bounded by the x-axis, the line $x = 1$, and the line $y = x$.

4. Evaluate $\displaystyle\int_0^{\pi} \int_x^{\pi} \frac{\sin(y)}{y}\, dy\, dx$ by reversing the order of integration.

5. Find the volume of the first octant part of the solid bounded by the cylinders $x^2 + y^2 = 1$ and $y^2 + z^2 = 1$.