You do not need to carry out the integrals here.

1. Set up but do not evaluate the integral $\iiint_E y \, dV$, where $E$ is bounded by the planes $x = 0$, $y = 0$, $z = 0$, and $x + 3y + z = 4$.

2. Set up but do not evaluate the integral $\iiint_F e^{\sqrt{x^2 + y^2 + z^2}} \, dV$ where $F$ is enclosed by the sphere $x^2 + y^2 + z^2 = 9$ in the first octant in spherical coordinates.

3. Match the vector fields $\mathbf{F}$ with the plots labeled I-IV.
   - A. $\mathbf{F}(x, y) = \mathbf{i} + x \mathbf{j}$
   - B. $\mathbf{F}(x, y) = y \mathbf{i} + 1/2 \mathbf{j}$
   - C. $\mathbf{F}(x, y) = (x - y) \mathbf{i} + x \mathbf{j}$
   - D. $\mathbf{F}(x, y) = \frac{y \mathbf{i} + x \mathbf{j}}{\sqrt{x^2 + y^2}}$