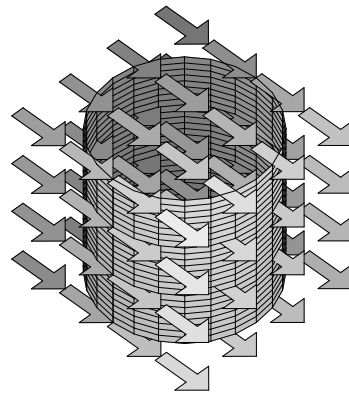
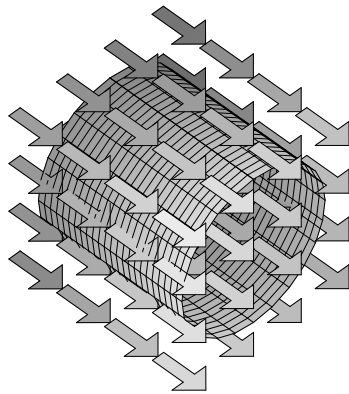


## 1. Flux

- (a) What do you think will be the flux through the cylindrical surface that is placed as shown in the constant vector field in the figure on the left?
- (b) What if the cylinder is placed upright, as shown in the figure on the right? Explain.



2. Find the flux of  $\vec{F} = x\hat{i} + y\hat{j} + z\hat{k}$  out of a closed cylinder of radius 2 centered on the  $y$ -axis, with  $-3 \leq y \leq 3$ .