16.3 Triple Integrals

$$
\begin{array}{l}
\text{base} \\
R
\end{array}
\left[
\begin{array}{lll}
\text{slices have} & \text{const} \leq \text{var 1} \leq \text{const} \\
\text{along a slice,} & \text{fnc(var1)} \leq \text{var 2} \leq \text{fnc(var1)} \\
\\
\text{over a pt} & \text{fnc(var1, var2)} \leq \text{var 3} \leq \text{fnc(var1, var2)}
\end{array}
\right.
$$

Rules for Choosing var 3:

1. Must be able to do var 3 integration.

2. Avoid choosing a variable that appears in more than 2 boundary equations.

3. Try to use the most complicated 2-variable boundary equation as part of R.

Key Idea:

• The boundary equations that include var3 define the "top" & "bottom." If the others don't fully define R, we need "top = bottom" also.