

10. $\iint_R \sqrt{4 - x^2 - y^2} \, dA$,
 where $R = \{(x, y) \mid x^2 + y^2 \leq 4, x \geq 0\}$

$\iint \underline{f(x, y)} \, \underline{dx dy}$
 \downarrow
 polar?
 $f(r \cos \theta, r \sin \theta)$

$\int f(x) \, dx$
 $\rightarrow \int f(r \cos \theta) r \, d\theta$