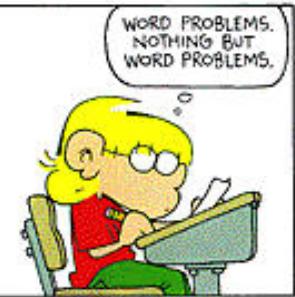
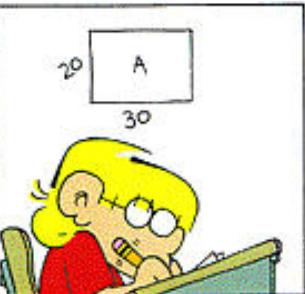
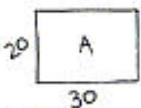


Foxtrot

BILL AMEND

Farmer Bob's vegetable garden is 20 feet wide by 30 feet long. Calculate its area in square footage.

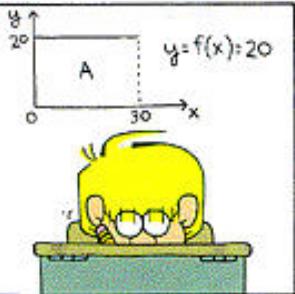
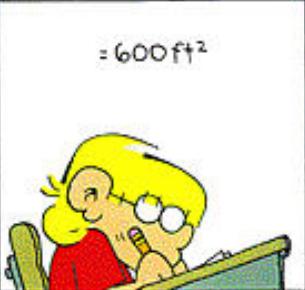


$$= 20 \times \int_0^{30}$$

$$= [(20)(30) - (20)(0)]$$

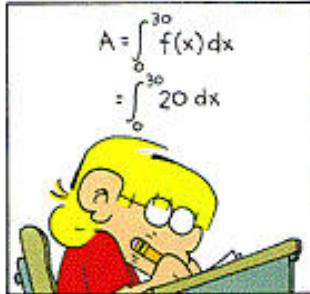


$$= 600 \text{ ft}^2$$



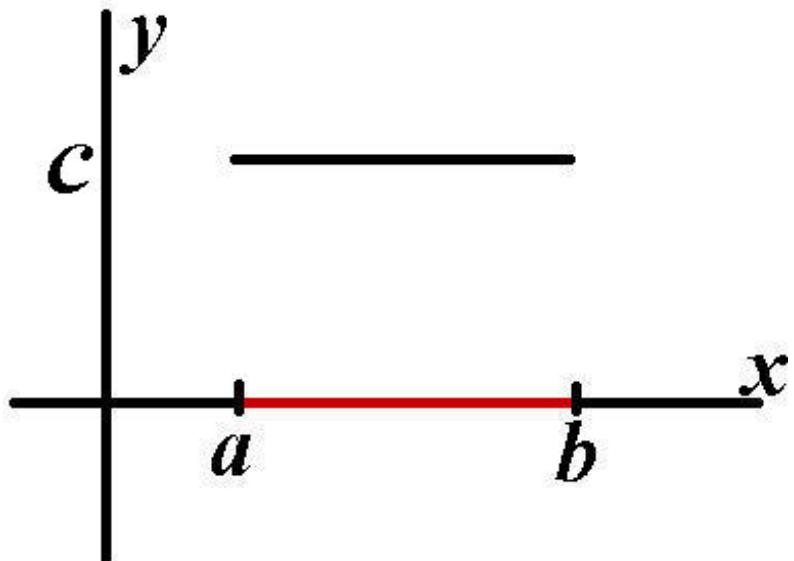
$$A = \int_0^{30} f(x) dx$$

$$= \int_0^{30} 20 dx$$

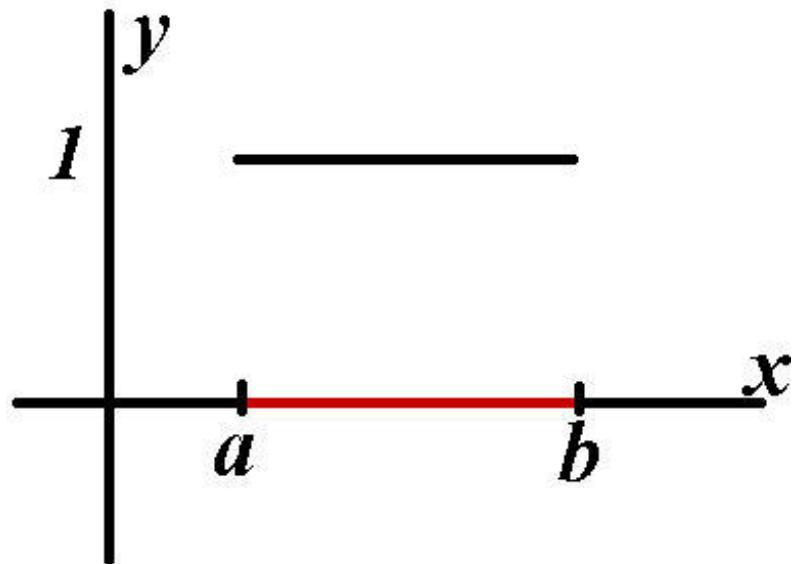


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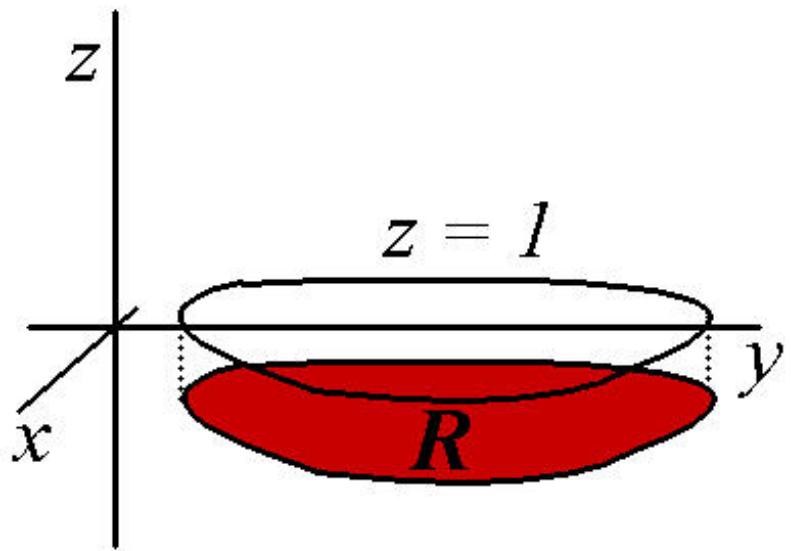
$$\int_a^b c \, dx = c(b - a)$$



$$\int_a^b 1 \, dx = b - a$$



$$\iint_R 1 \, dA = \text{Area}(R)$$

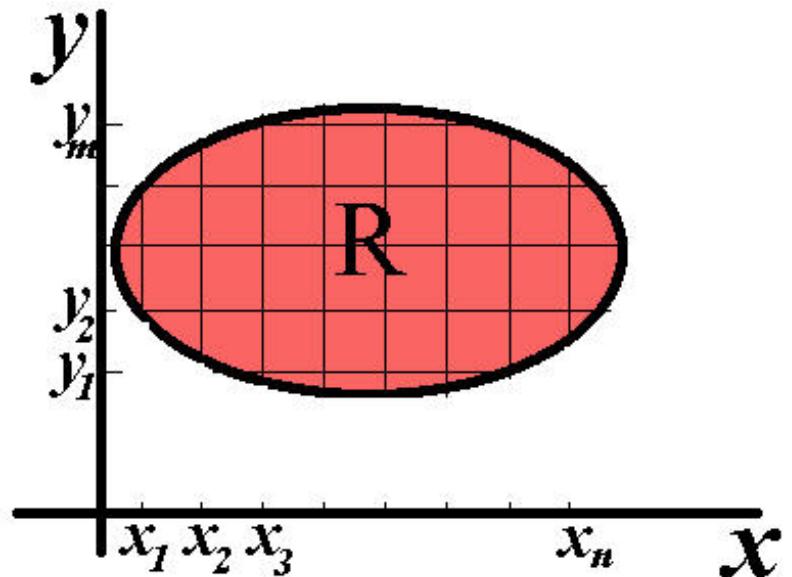


$$\lim_{n,m \rightarrow \infty} \sum_{i=1}^n \sum_{j=1}^m f(x_i, y_j) \Delta x \Delta y = \iint_R f(x, y) dx dy$$

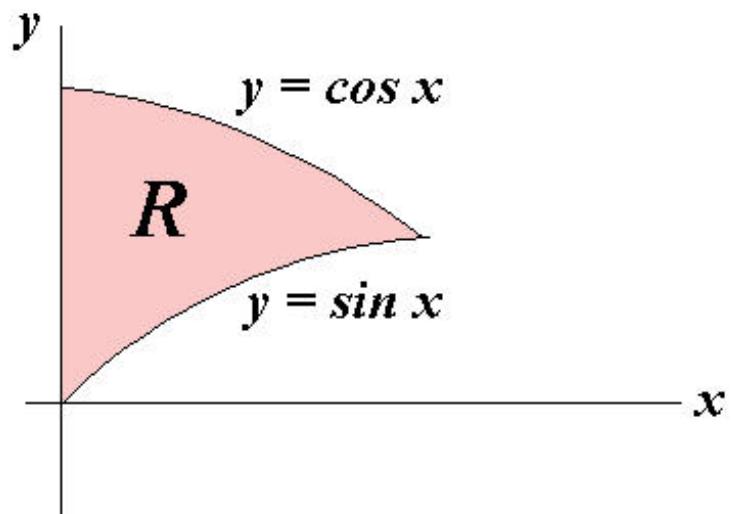
Therefore, if $f(x, y) = 1$ then:

$$\lim_{n,m \rightarrow \infty} \sum_{i=1}^n \sum_{j=1}^m 1 \Delta x \Delta y = \iint_R 1 dA$$

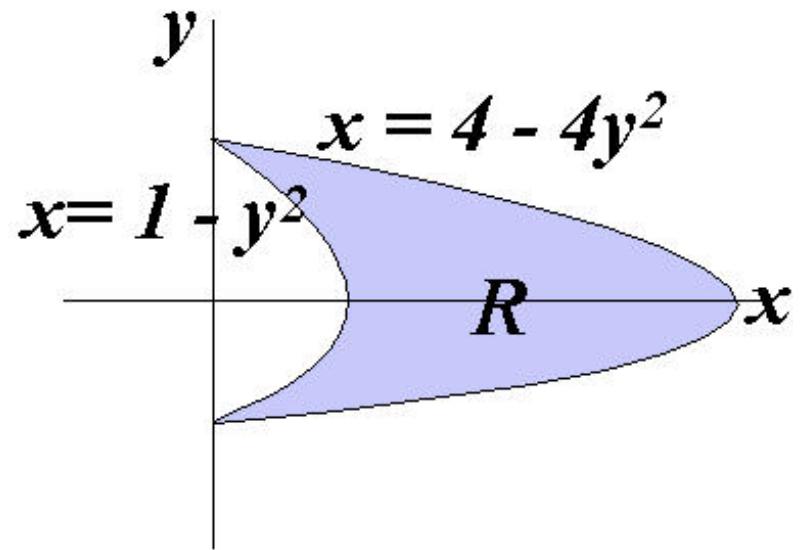
$$\lim_{n,m \rightarrow \infty} \sum_{i=1}^n \sum_{j=1}^m 1 \Delta x \Delta y = \iint_R 1 dA = \text{Area}(R)$$



$$\text{Area}(R) = \iint_R 1 \, dA$$

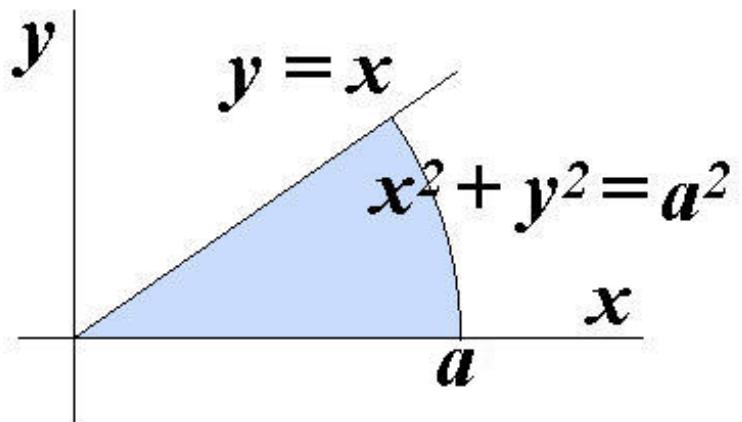


$$\text{Area}(R) = \iint_R 1 \, dA$$

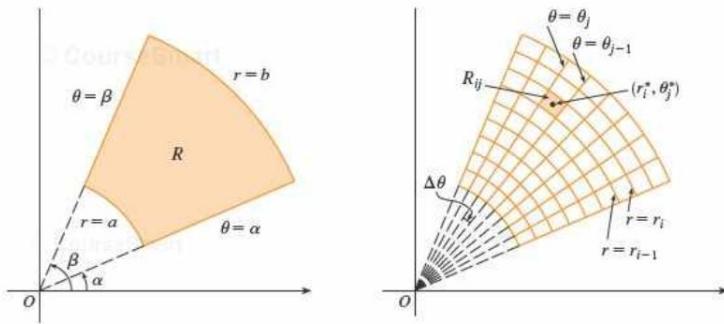


Let Ω be the sector shown below.

$$\text{Area}(\Omega) = \iint_{\Omega} 1 \, dA$$



$$\text{Area}(R) = \iint_R 1 \, dA = \iint_R 1 \, r \, dr \, d\theta$$



$$\text{Area}(\Omega) = \iint_{\Omega} 1 \, dA$$

