Answers to Even Exercises, Review problems from Ch 12

Chapter 12 True/False Number 2 = FALSE!! (why?? )

Chapter 12 Review #2 44.2

#10 $R = \{(x, y)|y - 4 \leq x \leq 4 - y, 0 \leq y \leq 4\}$, and

$$\int_0^4 \int_{y-4}^{4-y} f(x, y)\, dx\, dy$$

#12 The solid is the region in the first octant on orbetween the two spheres $\rho = 1$ and $\rho = 2$:

$$R = \{(\rho, \theta, \phi)|1 \leq \rho \leq 2, 0 \leq \theta \leq \pi/2, 0 \leq \phi \leq \pi/2\}$$

#14

$$\int_0^1 \int_{\sqrt{y}}^1 \frac{ye^{x^2}}{x^3}\, dx\, dy = \int_0^1 \int_0^{x^2} \frac{ye^{x^2}}{x^3}\, dy\, dx = \frac{1}{4}(e - 1)$$

# 28 $\pi/14$

# 38a Area of the surface $= \int_0^3 \int_{-3}^3 \sqrt{(2u^2)^2 + (4uv)^2 + (2v^2)^2}\, dv\, du$.

# 42 $\frac{64\pi}{9}$