

$$\#4 \quad \frac{\sqrt{2}}{8}$$

$$\#6 \quad 118/3$$

$$\#10 \quad 32/105$$

$$\#12 \quad (5\pi - 6\sqrt{3})/12$$

$$\#20 \quad \text{a) } \int_{-\sqrt{2}}^{\sqrt{2}} \int_{-\sqrt{4-2x^2}}^{\sqrt{4-2x^2}} \int_{3x^2+y^2}^{8-x^2-y^2} dz dy dx$$

$$\text{b) } \int_{-2}^2 \int_{-\sqrt{2-y^2}/2}^{\sqrt{2-y^2}/2} \int_{3x^2+y^2}^{8-x^2-y^2} dz dy dx$$

$$\#22 \quad 4 \int_0^{\sqrt{2}} \int_0^{\sqrt{4-2x^2}} \int_{3x^2+y^2}^{8-x^2-y^2} dz dy dx$$

$$\#24 \quad V = 8 \int_0^1 \int_0^{\sqrt{1-x^2}} \int_0^{\sqrt{1-x^2}} dz dy dx$$

$$\#28 \quad \text{False}$$

$$\#30 \quad \text{False}$$