

$$\#2 \quad \frac{\sqrt{3}}{24}$$

$$\#8 \quad \frac{8}{3}\pi a^4$$

#10 False

#12 True

$$\#18 \quad \frac{8}{3}\pi$$

$$\#24 \quad a \int_0^9 \int_{a/\sqrt{5}}^{a/\sqrt{2}} \frac{yx^2}{\sqrt{a^2-y^2}} dy dx \quad \text{and} \quad a \int_{a/\sqrt{2}}^{2a/\sqrt{5}} \int_0^9 x^2 dx dz$$

$$\#36 \quad 16\pi \ln 3$$