3. **Set-Up**, do not solve, an integral for the following volume calculations. If you use the Washer Method sketch the inner and outer radius in 2-dimensions. If you use the Shell Method sketch the height and radius in 2-dimensions.

(a) The solid resulting from rotating $A$ about $x = 2$.
(b) The solid resulting from rotating $B$ about $y = -2$.
(c) The solid resulting from rotating $A$ about $y = 6$.
(d) The solid resulting from rotating $B$ about the $x = 4$.
(e) The solid resulting from rotating $A$ about the $x$-axis.

$$
\int_0^2 \pi \left( 6 - \left( x^2 + 2 \right)^2 \right) \, dx
$$

$$
\int_0^2 2\pi (2-x) \left( 6 - \left( x^2 + 2 \right) \right) \, dx
$$

$$
\int_0^2 \pi \left( \left( x^2 + 2 - (-2) \right)^2 - \left( 0 - (-2) \right)^2 \right) \, dx
$$

$$
\int_0^2 \pi \left( 6 - (x^2 + 2) \right)^2 \, dx
$$

$$
\int_0^2 2\pi (4-x) \left( x^2 + 2 \right) \, dx
$$