

$$6. z = x^4, z=0, x=0, x=3, y=0, y=2$$

$$\int_{x=0}^{x=3} \int_{y=0}^{y=2} x^4 dy dx$$

$$= \int_{x=0}^{x=3} [x^4 y]_{y=0}^{y=2} dx$$

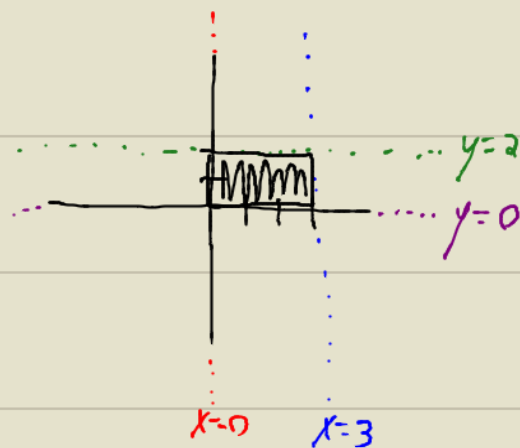
$$= \int_{x=0}^{x=3} [x^4(2) - x^4(0)] dx$$

$$= 2 \int_{x=0}^{x=3} x^4 dx$$

$$= 2 \left[\frac{1}{5} x^5 \right]_{x=0}^{x=3} dx$$

$$= \frac{2}{5} [3^5 - 0^5]$$

$$= \frac{486}{5}$$



$$\frac{243}{5}$$