

$$6. \int_C \frac{(x^2 - y^2)}{m} dx + \frac{(10xy)}{n} dy$$

$$x=3 \quad y = \sqrt{9-x^2}$$

$$= \int \int (10y - (-2y)) dy dx$$

$$x=-3 \quad y = -\sqrt{9-x^2}$$

$$x=3 \quad y = \sqrt{9-x^2}$$

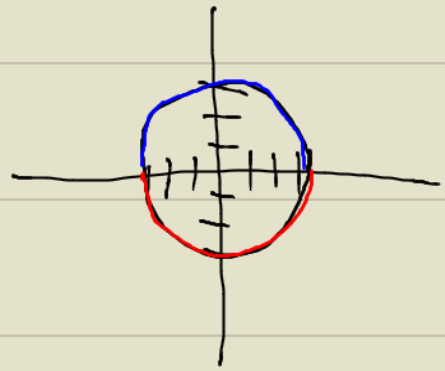
$$x=-3 \quad y = -\sqrt{9-x^2}$$

$$= \int \int (12y) dy dx$$

$$= 12 \int_{x=-3}^{x=3} \left[\frac{1}{2} y^2 \right]_{y=-\sqrt{9-x^2}}^{y=\sqrt{9-x^2}} dx$$

$$= 12 \cdot \frac{1}{2} \int_{x=-3}^{x=3} \left[(\sqrt{9-x^2})^2 - (-\sqrt{9-x^2})^2 \right] dx$$

$$= \textcircled{0}$$



$$x^2 + y^2 = 9$$

$$y^2 = 9 - x^2$$

$$y = \pm \sqrt{9 - x^2}$$

$$y = -\sqrt{9 - x^2} \quad y = \sqrt{9 - x^2}$$