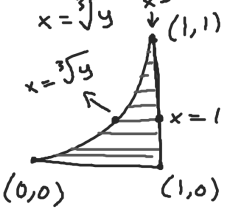
Tuesday - March 8, 2016

$\frac{1}{2}(1-\sqrt[3]{y})(1-\sqrt[3]{y})$

$$\int_0^1 (1-\sqrt[3]{y})^2\,dy$$



$$= \int_0^1 \left(1-2\sqrt[3]{y}+y^{\frac{2}{3}}\right)dy = \left[y-\frac{3}{2}y^{\frac{4}{3}}+\frac{3}{5}y^{\frac{5}{3}}\right]_0^1$$

$-2y^{\frac{1}{3}}$

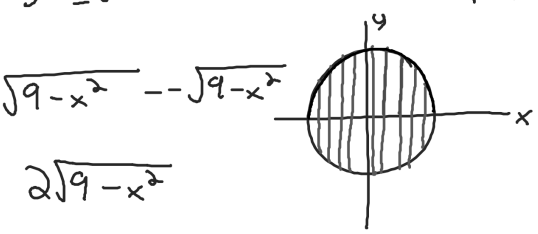
$$=1-\frac{3}{2}+\frac{3}{5}=\frac{1}{10}$$

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

$x^2+y^2=9$ $\quad r=3$

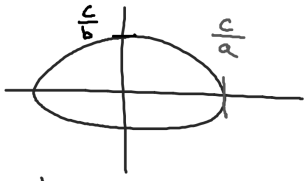
$\sqrt{9-x^2}--\sqrt{9-x^2}$

$2\sqrt{9-x^2}$

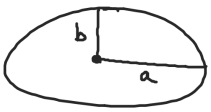


Ellipse

$a^2x^2+b^2y^2=c^2$



Area of Ellipse



$A=\pi ab$

Circle

$A=\pi r r$