# C12 - 5.1 - Int Hmk

Find the area under the graph $y = x^3$ from zero to two using four (n=4) rectangles. Using Riemann's LRAM, MRAM & RRAM, and Trapezoidal Rule .

Integrate the following. (Find the Antiderivative) Don't forget to check by taking the derivative.
And to add C!

$\int 5\,dx$ $\int 2x\,dx$ $\int x^2\,dx$ $\int \frac{x^2}{3}dx$ $\int 6x^2\,dx$ $\int (6x^2 + 2x)\,dx$ $\int \sqrt{x}\,dx$

$\int \frac{1}{x}dx$ $\int (x+3)^2\,dx$

Find the area under the curve using Integration. Confirm the area by geometry.

$y = 2x$ $0 \le x \le 3$ $y = \sqrt{9 - x^2}$ Semicircle

Find the area under the curve using Integration.

$y = x^2$ $0 \le x \le 2$ $y = \sqrt{x}$ $0 \le x \le 9$

Find the area between the curves using Integration.

$y = x$ $y = \sqrt{x}$ $\boxed{y = x^2 - 1 \quad y = x + 1}$ $y = x^3$ $y = 4x$

Find the Volume of revolution around the x-axis. Draw a graph.

$y = x^2$ $0 \le x \le 2$ $y = \sqrt{x}$ $0 \le x \le 4$

Find the Volume of revolution around the x-axis between the two functions by Integration.

$y = x^2$ $y = x$ $0 \le x \le 1$