$$\int x^2 - x + \frac{1}{x} - \sqrt{x}\,dx \qquad (\sqrt{x} = x^{\frac{1}{2}})$$

$$= \frac{x^3}{3} - \frac{x^2}{2} + \ln|x| - \frac{2}{3}x^{\frac{3}{2}} + C$$

$$\int \sin 3x\,dx$$

$$-\frac{\cos 3x}{3} + C$$

$$\int \frac{x - 3x^2}{2x}\,dx$$

$$= \int \frac{1}{2} - \frac{3}{2}x\,dx$$

$$= \frac{1}{2}x - \frac{3}{4}x^2 + C$$

$$\int \frac{1}{1+x^2}\,dx = \arctan x + C$$

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

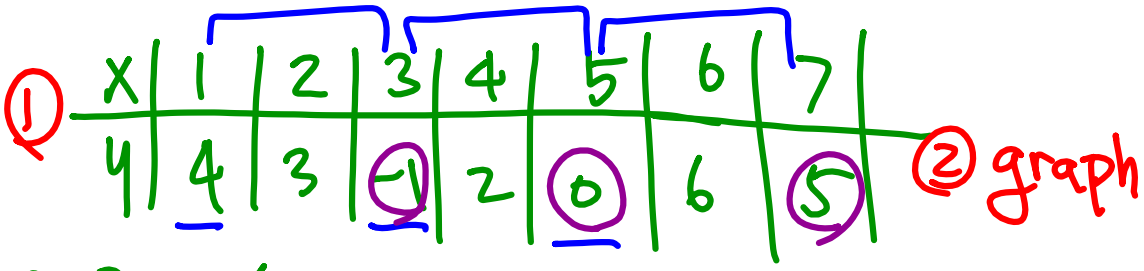
$$u = 1 + x^2$$

$$du = 2x\,dx$$

$$= \frac{1}{2}\int \frac{du}{u} = \frac{1}{2}\ln|u| + C$$

$$= \frac{1}{2}\ln|1+x^2| + C$$

$$\int \frac{1}{u}\,du = \int u^{-1}\,du = \begin{cases} \frac{u^0}{0} \times \\ \ln|u| + C \checkmark \end{cases}$$



$n=3$ w/ eq. int.

③ Alg. $y=f(x)$

MRAM: $2(3+2+6)=22$

LRAM: $2(4+(-1)+0)=6$

RRAM: $2(-1+0+5)=8$

$y = \sqrt{x+1}$ $[0, 3]$ $n = 2$.

LRAM

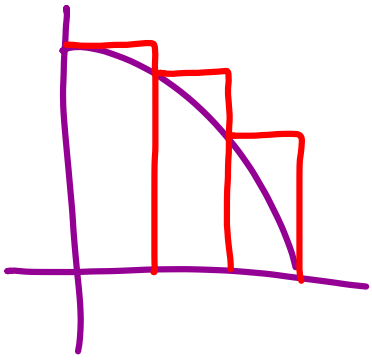
x	0	1.5	3
y	1	$\sqrt{2.5}$	2

(+1.5, +1.5)

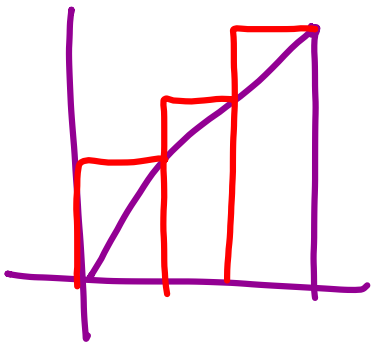
$\frac{3-0}{2} = 1.5$

$1.5(1+\sqrt{2.5})$

over approx.



LRAM



RRAM