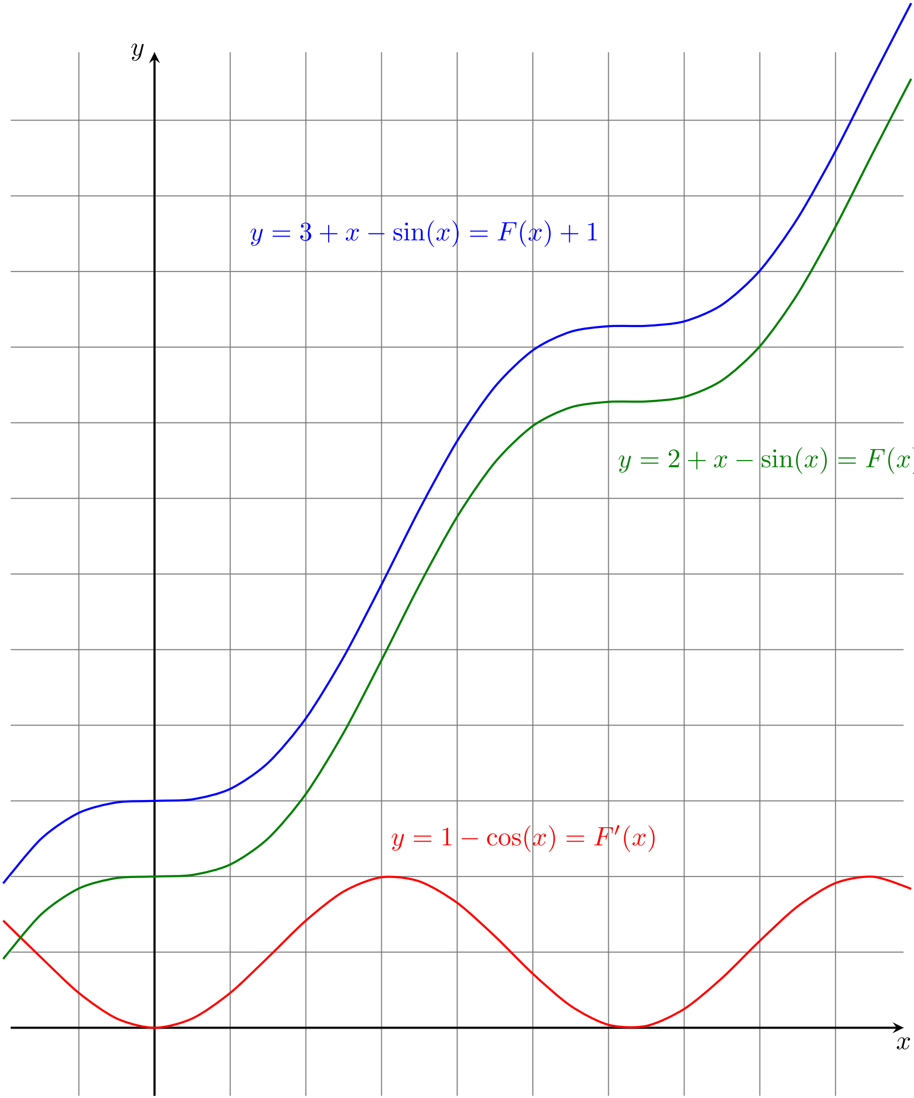
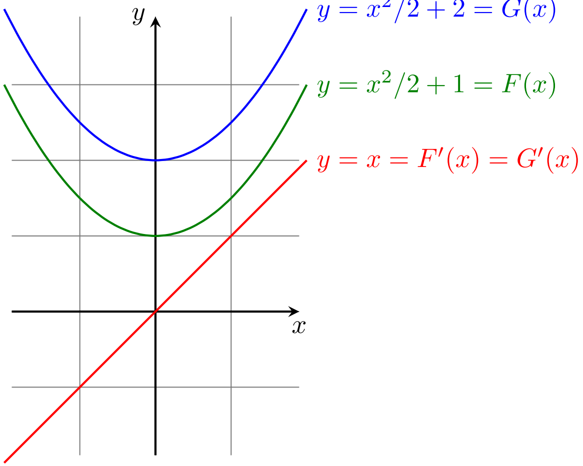
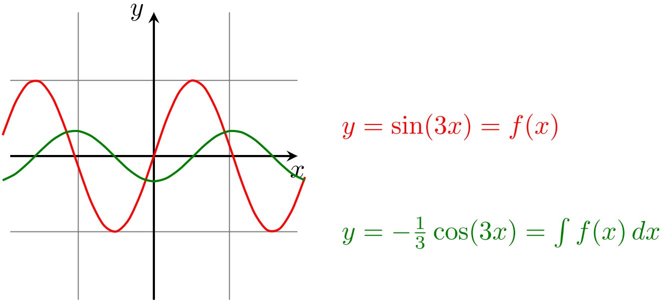
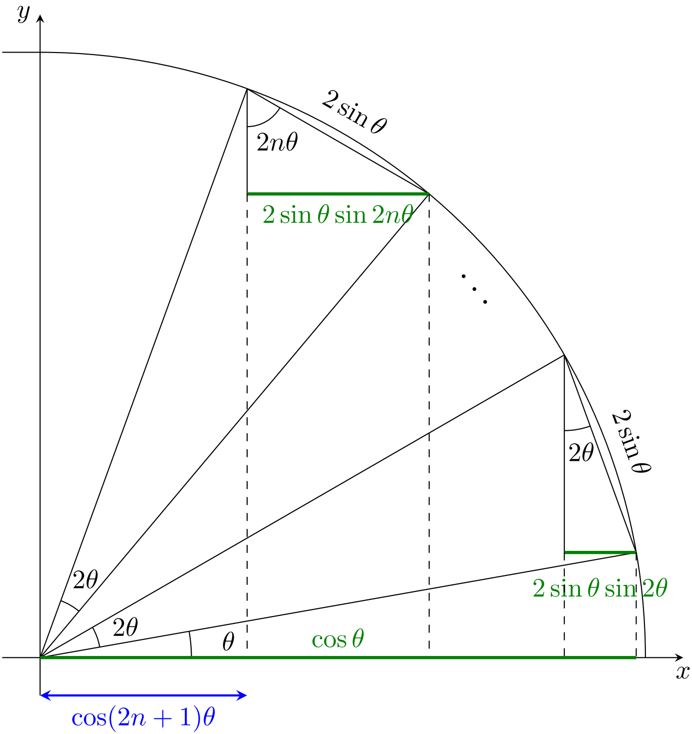


y
$y = 3 + x - \sin(x) = F(x) + 1$
$y = 2 + x - \sin(x) = F(x)$
$y = 1 - \cos(x) = F'(x)$
x



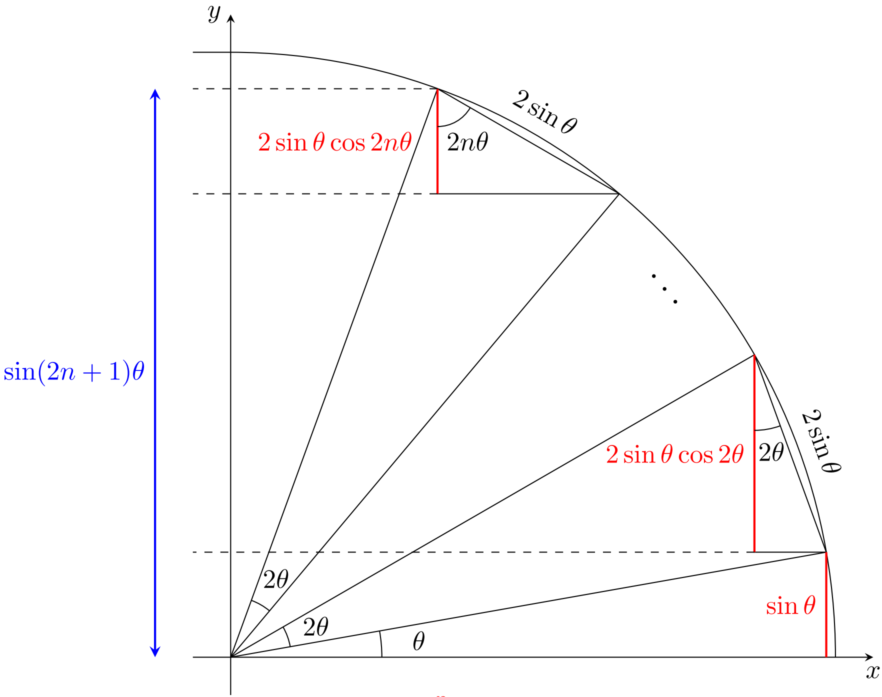
y
x
$y = x^2/2 + 2 = G(x)$
$y = x^2/2 + 1 = F(x)$
$y = x = F'(x) = G'(x)$


y
x
$y = \sin(3x) = f(x)$
$y = -\frac{1}{3}\cos(3x) = \int f(x)\,dx$



$$\cos(2n+1)\theta = \cos\theta - 2\sin\theta\sum_{k=1}^{n}\sin 2k\theta$$

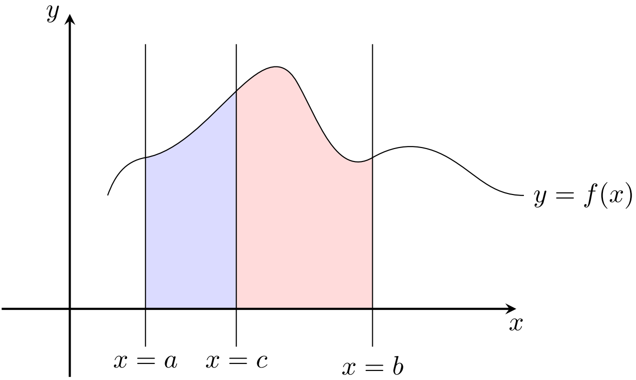
$$\sum_{k=1}^{n}\sin 2k\theta = \frac{\cos\theta}{2\sin\theta} - \frac{\cos(2n+1)\theta}{2\sin\theta} = \frac{1}{2}\cot\theta - \frac{\cos(2n+1)\theta}{2\sin\theta}$$

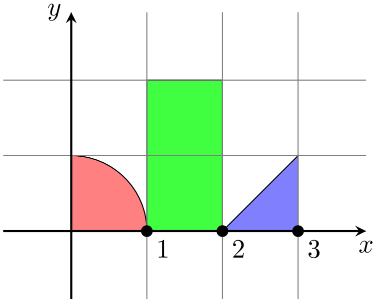


$$\sin(2n+1)\theta = \sin\theta + 2\sin\theta\sum_{k=1}^{n}\cos 2k\theta$$

$$\sum_{k=1}^{n}\cos 2k\theta = -\frac{1}{2} + \frac{\sin(2n+1)\theta}{2\sin\theta}$$

$$\int_a^b f(x)\,dx = \int_a^c f(x)\,dx + \int_c^b f(x)\,dx$$



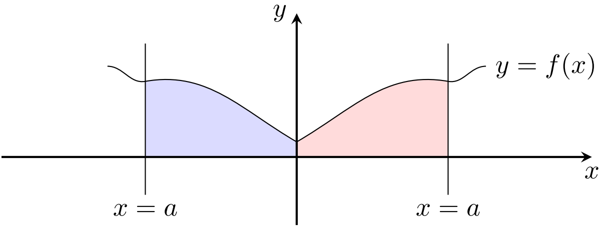


$$\int_0^3 f(x)\,dx$$

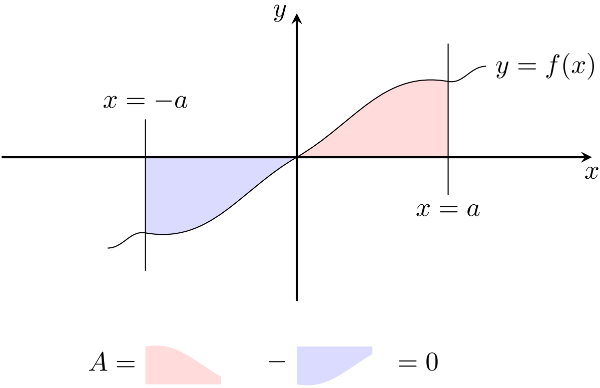
$$= \int_0^1 \sqrt{1-x^2}\,dx + \int_1^2 2\,dx + \int_2^3 (x-2)\,dx$$

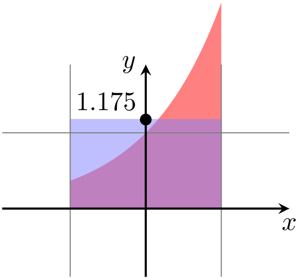
$$= \frac{\pi}{4} + 2 + \frac{1}{2} \approx 3.035$$

$$\text{Jos } f(-x) \equiv f(x), \text{ niin } \int_{-a}^{a} f(x)\,dx = 2\int_{0}^{a} f(x)\,dx.$$

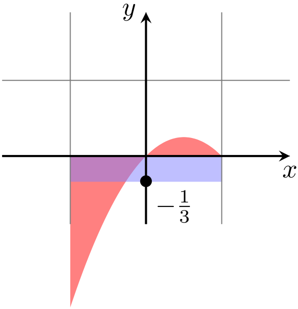


$$\text{Jos } f(-x) \equiv -f(x), \text{ niin } \int_{-a}^{a} f(x)\,dx = 0.$$

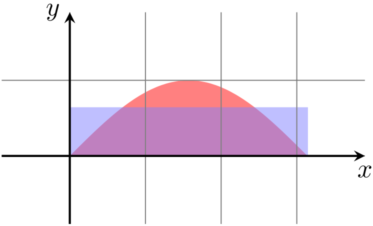




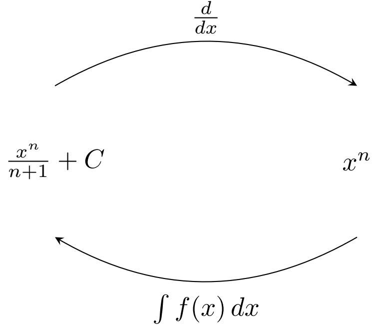
$$\int_{-1}^{1} \exp(x)\,dx \approx 2.35 \approx 2 \cdot 1.175$$

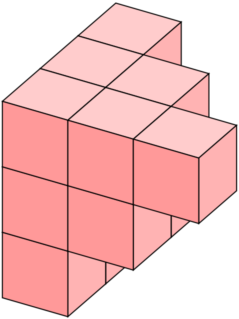


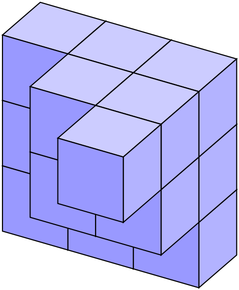
$$\int_{-1}^{1} -x^2 + x = -\frac{2}{3}\,dx = -\frac{1}{3}\cdot 2$$

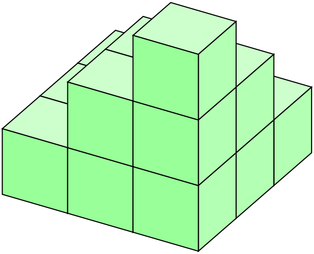


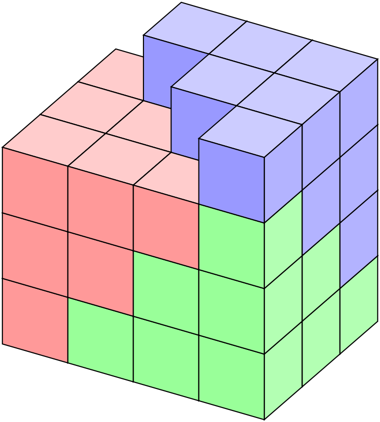
$$\int_0^\pi \sin(x)\,dx = 2 = \pi \cdot \frac{2}{\pi}$$

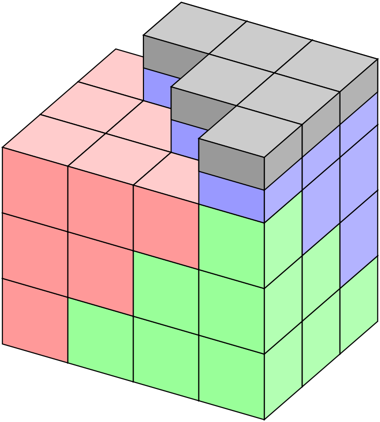

$\frac{d}{dx}$
$\frac{x^n}{n+1} + C$
x^n
$\int f(x)\,dx$

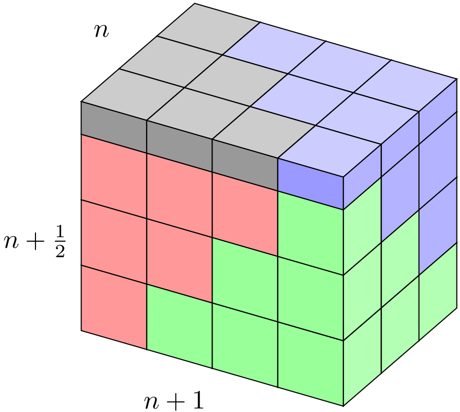




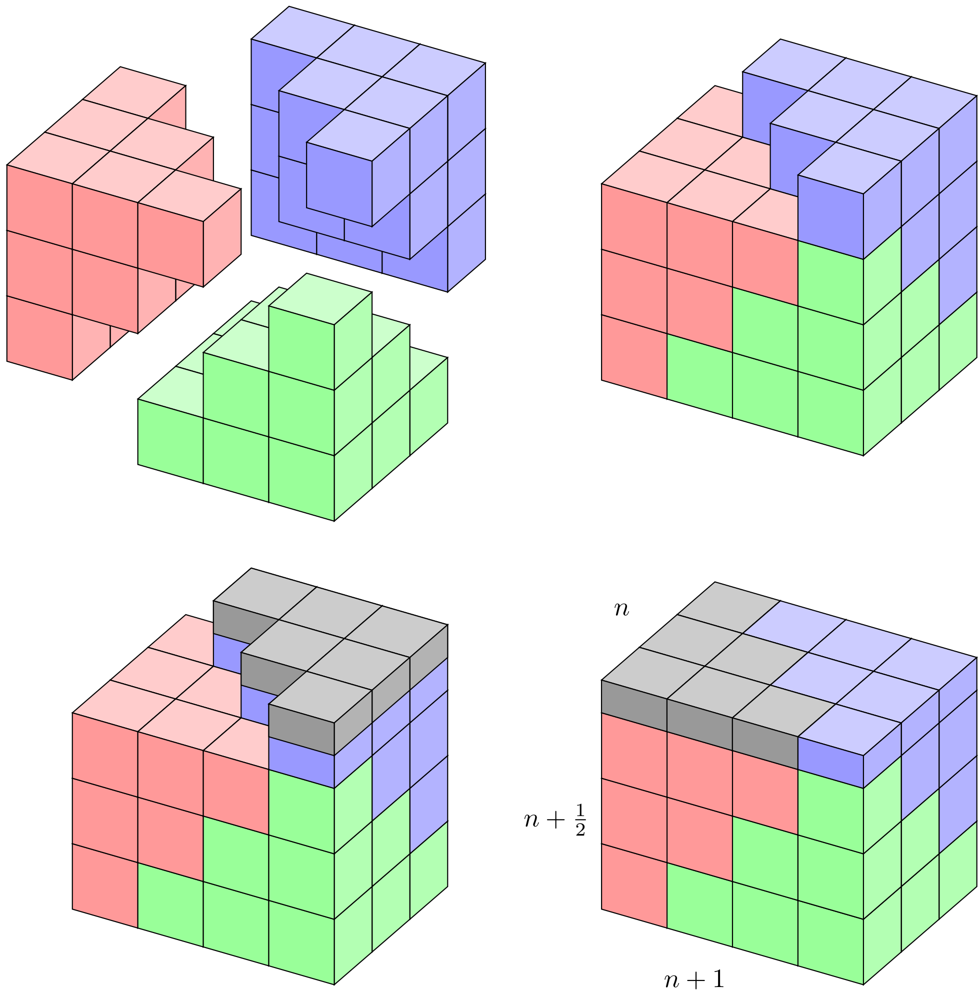




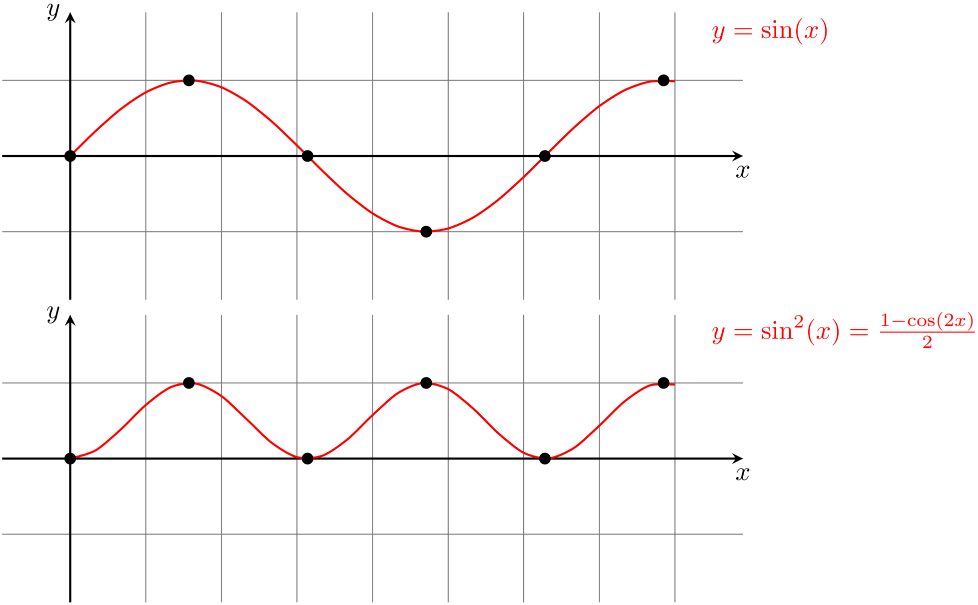




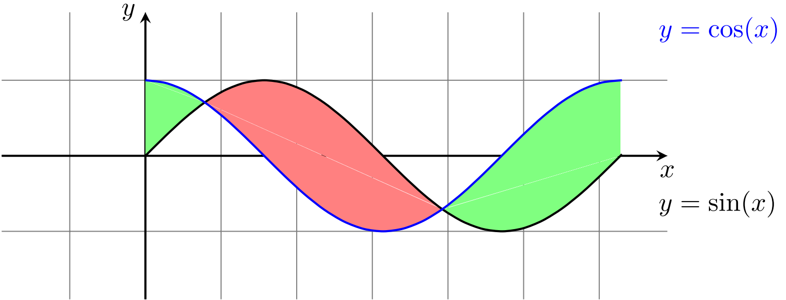
$$1^2 + 2^2 + \ldots + n^2 = \frac{1}{3}n(n+1)(n+1/2)$$



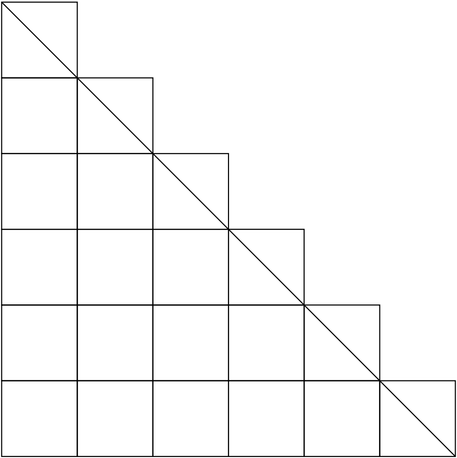
$$1^2 + 2^2 + \ldots + n^2 = \frac{1}{3}n(n+1)(n+1/2)$$



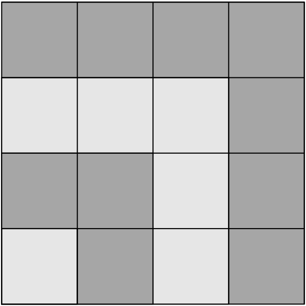
y
x
$y = \sin(x)$
y
x
$y = \sin^2(x) = \frac{1-\cos(2x)}{2}$



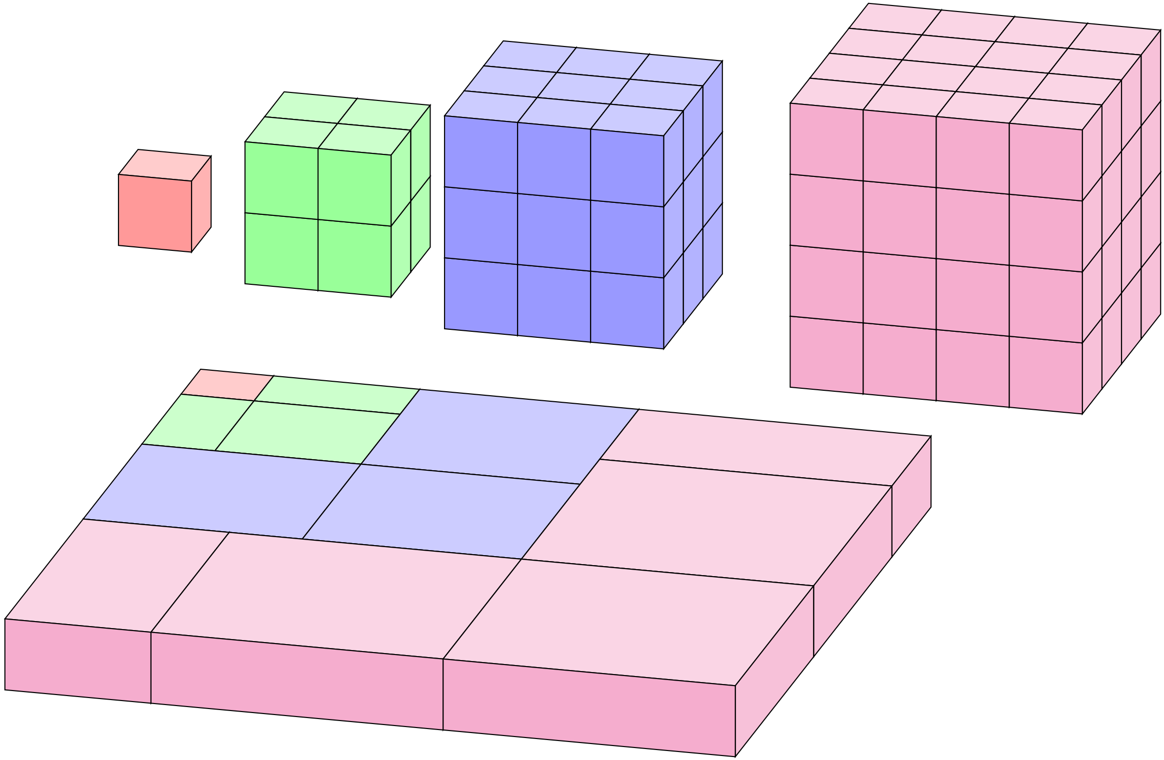
y
x
y = cos(x)
y = sin(x)



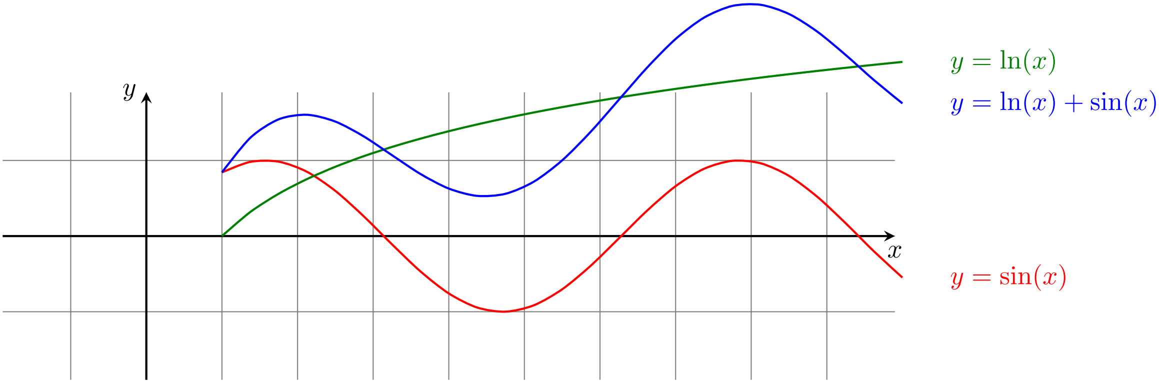
$$1 + 2 + \ldots + n = \frac{n^2}{2} + \frac{n}{2} = \frac{n(n+1)}{2}$$

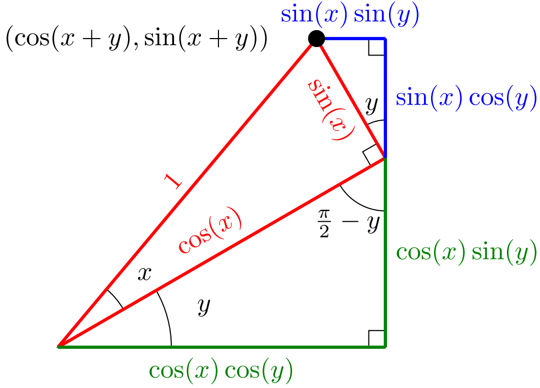


$$1 + 3 + 5 \ldots + (2n + 1) = (n + 1)^2$$



$$1^3 + 2^3 + \ldots + n^3 = (1 + 2 + \ldots + n)^2$$


y
x
$y = \ln(x)$
$y = \ln(x) + \sin(x)$
$y = \sin(x)$



$$\sin(x+y) = \cos(x)\sin(y) + \sin(x)\cos(y)$$
$$\cos(x+y) = \cos(x)\cos(y) - \sin(x)\sin(y)$$