The function $f(x) = (x-3)^2 + \frac{1}{2}$ has domain $\mathrm{D}_f : (-\infty, \infty)$ and range $\mathrm{R}_f : \left[\frac{1}{2}, \infty\right)$.

$\lim$

$\lim\limits_{x \to a}$

$\lim\limits_{x \to a} f(x)$

$\lim\limits_{x \to a^-} f(x)$

$\lim\limits_{x \to a^+} f(x)$

$\lim\limits_{x \to a} \frac{f(x) - f(a)}{x - a} = f'(a)$

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$\int \sin x dx$

$\int \sin x \; dx$

$\int \sin x \, dx$

$\int \sin x \, dx = -\cos x + C$

$$\int \sin x \, dx = -\cos x + C$$

$\int_a^b$

$\int\limits_a^b$

$$\int_a^b$$

$$\int\limits_a^b$$

$$\int\limits_2 a^b$$

$$\int\limits_{2a}^b$$

$$\int\limits_a^b x^2 \, dx$$

$$\int\limits_a^b x^2 \, dx = \left[\frac{x^3}{3}\right]\Bigg|_a^b = \frac{b^3}{3} - \frac{a^3}{3}$$

$\sum$

$$\sum$$

$$\sum_{n=1}^{\infty}$$

$$\sum_{n=1}^{\infty} ar^n = ar + ar^2 + \cdots + ar^n$$

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

$$\int_a^b f(x)\,dx = \lim_{x\to\infty}$$

$$\int_a^b f(x)\,dx = \lim_{x\to\infty} \sum_{k=1}^{n} f(x_k) \cdot \delta x$$

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$$\vec{v} = v_1\vec{i} + v_2\vec{j} = \langle v_1, v_2 \rangle$$

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