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

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

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

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

$$\int_a^b$$

$$\int_a^b$$

$$\int_a^b$$

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

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

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

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