

$$y = a^x \quad y = \log_a x \quad a > 0 \quad a \neq 1$$

$$y = x \quad y = x^2 \quad y = x^3 \quad y = \frac{1}{x} \quad y = x^{\frac{1}{2}}$$

$$\begin{aligned}
 & y = \sin x \quad y = \cos x \quad y = \tan x \\
 & x \in [0, 2\pi] \\
 & \sin^2 x + \cos^2 x = 1 \quad \frac{\sin x}{\cos x} = \tan x
 \end{aligned}$$

ρ

$$y = A \sin(\rho x)$$

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A

n

$$\frac{a+b}{2} - \sqrt{ab} \quad (a \geq 0, b \geq 0)$$

p *q*

$$y = C_1 C_2 \quad y = x \quad y = x^2 \quad y = x^3 \quad y = \frac{1}{x} \quad y = \sqrt{x}$$

$$f(ax + b)$$

n

(1) $|a - b| \leq |a| + |b|$.

(2) $|a - b| \leq |a - c| + |c - b|$.

(3)

$$|ax - b| \leq |c| \implies |ax - b| \leq |c| \implies |x - a| + |x - b| \leq |c|.$$

2.

(1) $|a| + |b| \geq |a + b|$.

(2) $(a^2 - b^2)(c^2 - d^2) = (ac - bd)^2$.

(3) $\sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2} + \sqrt{(x_2 - x_3)^2 + (y_2 - y_3)^2} \geq \sqrt{(x_1 - x_3)^2 + (y_1 - y_3)^2}$.

$$\sum_{i=1}^n a_i^2 + \sum_{i=1}^n b_i^2 = \left(\sum_{i=1}^n a_i b_i \right)^2$$

$$(1-x)^n = \sum_{k=0}^n \binom{n}{k} (-x)^k$$