

Формулы логарифмов.

1. $\log_a x = b \Leftrightarrow a^b = x \quad x > 0; a > 0; a \neq 1$

2. $a^{\log_a x} = x$

3. $\log_a x_1 \cdot x_2 = \log_a |x_1| + \log_a |x_2|$

4. $\log_a \frac{x_1}{x_2} = \log_a |x_1| - \log_a |x_2|$

5. $\log_a x^n = n \cdot \log_a |x|$

6. $\log_b x = \frac{\log_a x}{\log_a b}$

7. $\log_b x = \frac{1}{\log_x b}$

8. $\log_a b \cdot \log_b a = 1$

9. $\log_a x_1 \cdot \log_b x_2 = \log_a x_2 \cdot \log_b x_1$

10. $\log_{a^n} x = \frac{1}{n} \cdot \log_{|a|} x$

11. $x^{\log_a y} = y^{\log_a x}$

12. $\frac{\log_a x_1}{\log_a x_2} = \frac{\log_b x_1}{\log_b x_2}$

13. $a^{\sqrt{\log_a b}} = b^{\sqrt{\log_b a}}$