# ОСНОВНЫЕ СВОЙСТВА ЛОГАРИФМОВ

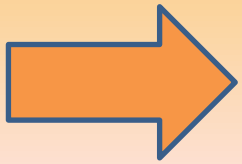

*Кравченко Н.А.*
*Учитель математики*
*ГБОУ СОШ №891*
*г. Москва*

ВПЕРЕД

# СОДЕРЖАНИЕ

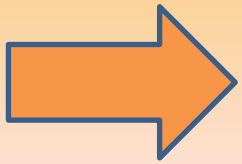
$$a > 0,\ a \neq 1$$

$$\log_a 1 = 0$$



$$a > 0,\ a \neq 1$$

$$\log_a a = 1$$



$a > 0 \ (a \neq 1)$

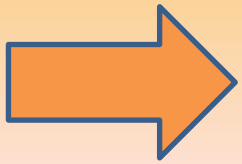
*положительные*

$$\log_a xy = \log_a x + \log_a y$$

$a > 0 \ (a \neq 1)$

*положительные*

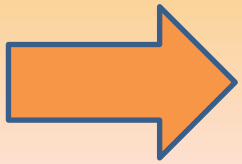
$$\log_a \frac{x}{y} = \log_a x - \log_a y$$



$a > 0 \ (a \neq 1), \ p \in \mathbb{R}$

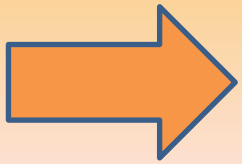
*положительные*

$$\log_a x^p = p \log_a x$$



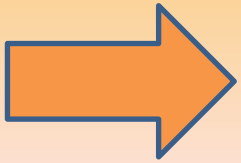
$$\log_{34} 1 = 0$$

$$34^0 = 1$$



$$\log_{43} 43 = 1$$

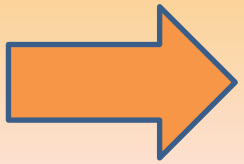
$$43^{1} = 43$$



$$\log_{12} 4 + \log_{12} 36 =$$

$$= \log_{12}(4 \cdot 36) =$$

$$= \log_{12} 144 = 2$$

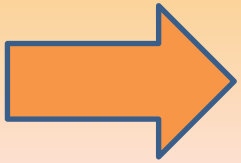


$$\log_2 11 - \log_2 44 = \log_2 \frac{11}{44} =$$

$$= \log_2 \frac{1}{4} = -2$$

$$\log_3 9^2 = 2 \cdot \log_3 9 =$$

$$= 2 \cdot 2 = 4$$



*По учебнику под редакцией А.Н. Колмогорова «Алгебра и начала анализа 10-11»*