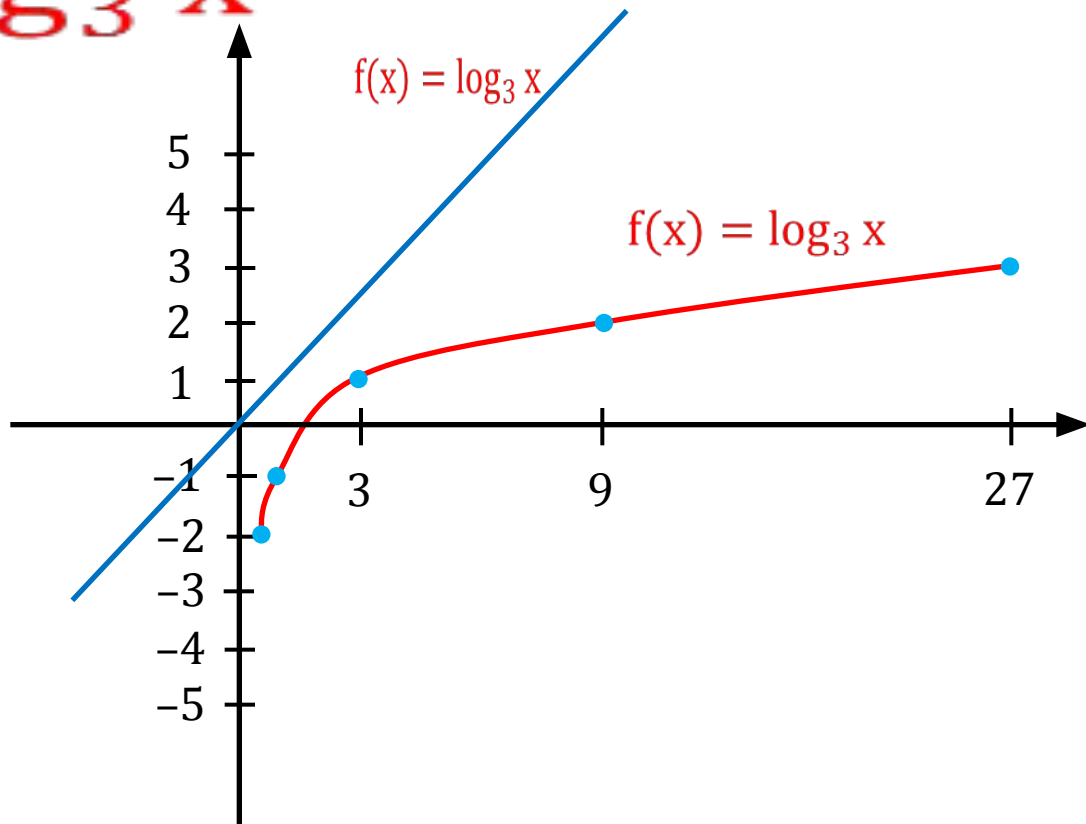


$$f(x) = \log_3 x$$

возрастает при $a > 1$.



Словесная формулировка

$$f(x) = \log_3 x$$

Символическая запись

$$f(x) = \log_3 x$$



$$f(x) = \log_3 x$$

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$$f(x) = \log_3 x$$

$$f(x) = \log_3 x \quad f(x) = \log_3 x$$

$a > 1$	$0 < a < 1$
$\log_a t > 0$ при $t > 1 \Rightarrow$ $\Rightarrow \frac{f(x)}{g(x)} > 1 \Rightarrow$ $\Rightarrow f(x) > g(x)$	$\log_a t > 0$ при $0 < t < 1 \Rightarrow$ $\Rightarrow 0 < \frac{f(x)}{g(x)} < 1 \Rightarrow$ $\Rightarrow f(x) < g(x)$

$$f(x) > 0, g(x) > 0$$

$$a > 1$$

$$\log_a f(x) > \log_a g(x)$$

равносильно

$$f(x) > g(x)$$

$$0 < a < 1$$

$$\log_a f(x) > \log_a g(x)$$

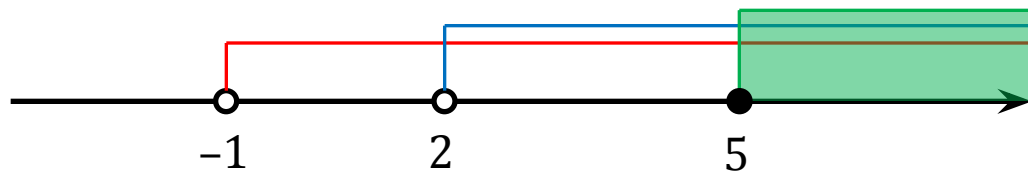
равносильно

$$f(x) < g(x)$$

$$f(x) = \log_3 x$$

Решение.

$$\left[\begin{array}{l} f(x) = \log_3 x \\ f(x) = \log_3 x \\ f(x) = \log_3 x \end{array} \right. \left[\begin{array}{l} f(x) = \log_3 x \\ f(x) = \log_3 x \\ f(x) = \log_3 x \end{array} \right. \left[\begin{array}{l} f(x) = \log_3 x \\ f(x) = \log_3 x \\ f(x) = \log_3 x \end{array} \right.$$



$$f(x) = \log_3 x$$

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Решение.

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$$f(x) = \log_3 x$$

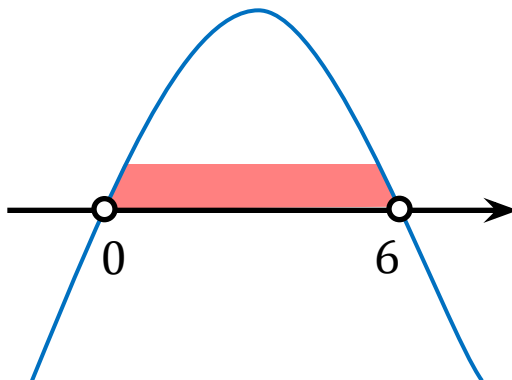
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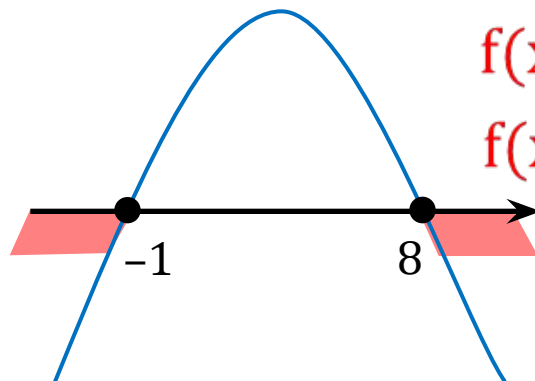
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Решение.

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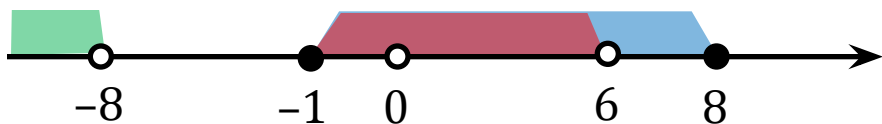
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$$f(x) = \log_3 x$$

Свойства логарифмов:

$$f(x) = \log_3 x$$

2. Любое число можно представить в виде логарифма.

$$f(x) = \log_3 x$$

$$f(x) = \log_3 x$$

$$f(x) = \log_3 x$$

Решение.

$$f(x) = \log_3 x$$

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$$f(x) = \log_3 x \quad f(x) = \log_3 x$$

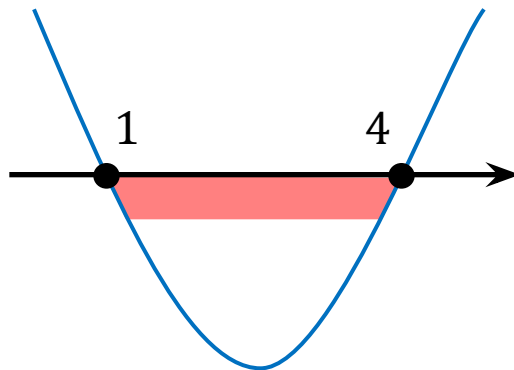
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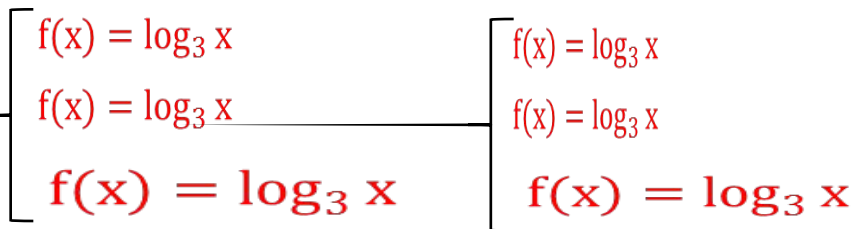
$$f(x) = \log_3 x$$



$$f(x) = \log_3 x$$

Решение.

$$f(x) = \log_3 x$$



$$f(x) = \log_3 x$$

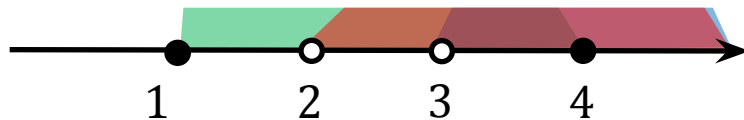
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$$f(x) = \log_3 x$$

если $a > 1$, то переходят к решению системы

$$\begin{cases} f(x) = \log_3 x \\ f(x) = \log_3 x \\ f(x) = \log_3 x \end{cases}$$

если $0 < a < 1$, то переходят к решению системы

$$\begin{cases} f(x) = \log_3 x \\ f(x) = \log_3 x \\ f(x) = \log_3 x \end{cases}$$