

Решите неравенство

$$\lg^4 x - 4\lg^3 x + 5\lg^2 x - 2\lg x \geq 0$$

$$\lg^4(x) - 4\lg^3(x) + 5\lg^2(x) - 2\lg x \geq 0$$

$$\lg x = t$$

$$t^4 - 4t^3 + 5t^2 - 2t \geq 0$$

$$t = 1$$

$$t(t^2 - 3t + 2) \geq 0$$

$$t(t-1)(t-2) \geq 0$$

	1	-4	5	-2	0
1	1	-3	2	0	0

$$t(t-1)^2(t-2) \geq 0$$

$$t \in (-\infty; 0] \cup [2; +\infty) \cup \{1\}$$

$$\lg x \in (-\infty; 0] \cup [2; +\infty) \cup \{1\}$$

$$\lg x = 1$$

$$x = 10$$

$$\lg x \leq 0$$

$$x \leq 1$$

$$\lg x \geq 2$$

$$x \geq 100$$

$$x \in (-\infty; 1] \cup \{10\} \cup [100; +\infty)$$

