Тема 14.5. Неравенства смешанного типа.

1. $3^x\sqrt{5x-x^2+14}\le 27\sqrt{5x-x^2+14}$	**7.** $\dfrac{\sqrt{2x+1}}{2+\log_{0,5}(x+1)}\ge 0$
2. $(7x-10)\log_{4x-3}\left(x^2-4x+9\right)\ge 0$	**8.** $\dfrac{x^2\cdot(x-2)^2}{\log_{o,5}\left(x^2+1\right)}\ge 0$
3. $\dfrac{\left(\lvert 3x+2\rvert-x-6\right)\cdot\left(\log_{\frac{1}{2}}(x+10)+3\right)}{2^{x^2+2}-2^x}\ge 0$	**9.** $\dfrac{\log_{0,3}(x-1)}{\sqrt{8-2x-x^2}}\le 0$
4. $\dfrac{3\cdot 2^{\frac{x}{2}}-7\cdot 2^{\frac{x}{4}}-20}{\sqrt{x-3}}\le 0$	**10.** $\sqrt{6-x}\cdot\left(2\cdot 9^{2x}-53\cdot 3^{2x}-27\right)\ge 0$
5. $\dfrac{x-2\sqrt{x}-8}{2^x-4}\ge 0$	**11.** $5^{\frac{x^2-7\lvert x\rvert+10}{x^2-6x+9}}<1$
6. $\left(\dfrac{1}{2}\right)^{\log_3\lg_{1/5}\left(x^2-\frac{4}{5}\right)}>1$	**12.** $\left(\dfrac{7}{3}\right)^{\frac{x^2+3x-1}{x+2}}\ge\dfrac{2}{3}\cdot 3,5^{x+1-\frac{3}{x+2}}$

Ответы:

1) [-2; 3]∪{7} **2)** (3/4;1)∪[10/7; +∞) **3)** [-10; 2] **4)** (3; 8] **5)** [0; 2)∪[16; +∞) **6)** (-3/√5; -1)∪(1; 3/√5)
7) [-0,5; 3) **8)** {2} **9)** нет решений **10)** [1,5; 6] **11)** (-5; -2) ∪ (2;3)∪(3; 5) **12)** (-∞; -3] ∪(-2;1]