Решите неравенство

$$\log_{\frac{1}{9}}(7-6x)\cdot\log_{2-x}\frac{1}{3}\geq 1.$$

log_a(b)=1 / log_b(a)
log_a(b) / log_a(c)=log_c(b)

ОДЗ
7-6x>0
-6x > -7
-x > -7/6
x < 7/6

log_1/9(7-6x)*log_2-x(1/3) ≥ 1
log_1/9(7-6x)*1/log_1/3(2-x) ≥ 1
(1/2log_1/3(7-6x))/ log_1/3(2-x) ≥ 1
½ log_2-x(7-6x) ≥ 1
log_2-x(7-6x) ≥ 2
log_2-x(7-6x) ≥ log_2-x(2-x)^2

1сл
0<2-x<1
(7-6x) <= (2-x)^2

2сл
2-x>1
(7-6x) >= (2-x)^2

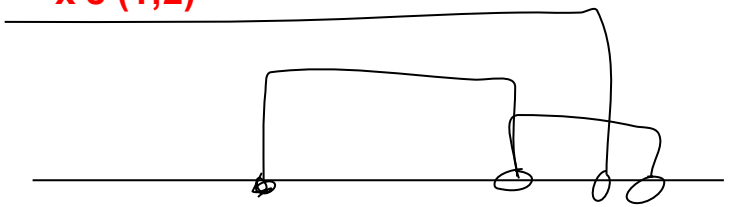
В ИТОГЕ:
x Э [-3;1) U (1;2)
x < 7/6

ОТВ:
x э [-3; 1) U (1; 7/6)

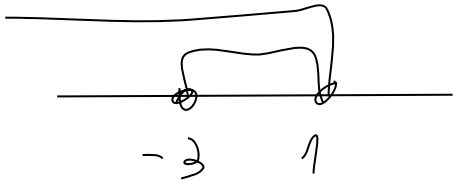
0<2-x<1
(7-6x) ≤ (2-x)^2
7-6x ≤ 4-4x+x^2
x^2 + 2x - 3≥0
x1 = -3
x2 = 1

-3 1

0<2-x<1
-2 < -x < -1
1 < x < 2
x э (1;2)



2-x>1
7-6x >= (2-x)^2
7-6x ≥ 4-4x+x^2
x^2 + 2x - 3≤0
x1 = -3
x2 = 1



2-x>1
-x>-1
x<1
x э [-3; 1)