

$$1) 3 \cdot 5^{2x-1} - 50 \cdot 5^{x-3} = 0,2$$

$$\frac{3}{5} \cdot 5^{2x} - \frac{50}{5^3} \cdot 5^x - \frac{2}{10} = 0$$

$$5^x = t \quad 5^{2x} = t^2$$

$$\frac{3}{5} t^2 - \frac{2}{5} t - \frac{1}{5} = 0$$

$$3t^2 - 2t - 1 = 0 \quad t_{1,2} = \frac{2 \pm \sqrt{4 + 12}}{6} = \frac{2 \pm 4}{6}$$

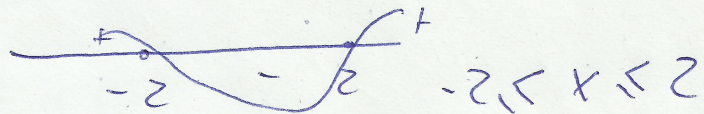
$$t_1 = -\frac{1}{3} \text{ - не подходит, т.к. } 5^x > 0$$

$$t_2 = 1 \quad 5^x = 1 \quad x = 0$$

$$2) a) \left(\frac{3}{7}\right)^{2x^2} \leq \left(\frac{9}{49}\right)^4 \Rightarrow \left(\frac{3}{7}\right)^{2x^2} \leq \left(\frac{3}{7}\right)^8 \Rightarrow$$

$$2x^2 \leq 8 \Rightarrow 2x^2 - 8 \leq 0 \quad 2(x^2 - 4) \leq 0 \Rightarrow$$

$$2(x+2)(x-2) \leq 0$$



$$x \in [-2, 2]$$