

e)

$$4 \cdot 7^{8x} = 2 \cdot 3^{5x} \quad | : 2$$

$$2 \cdot 7^{8x} = 3^{5x} \quad | \text{ logarithmieren}$$

$$\log 2 + \log 7^{8x} = \log 3^{5x}$$

$$\log 2 + 8x \log 7 = 5x \log 3 \quad | - 8x \log 7$$

$$\log 2 = 5x \log 3 - 8x \log 7$$

$$\log 2 = x \cdot (5 \log 3 - 8 \log 7) \quad | : (5 \log 3 - 8 \log 7)$$

$$\frac{\log 2}{5 \log 3 - 8 \log 7} = x$$

$$x \approx -0,0688$$