

Solutions

$$\begin{aligned} 1. \quad & 2^{5x-7} = 8 \\ & \log 2^{5x-7} = \log 8 \\ (5x-7) \cdot \log 2 &= \log 8 && \left| \div \log 2 \right. \\ & 5x-7 = \frac{\log 8}{\log 2} = 3 \\ & 5x = 10 \\ & x = 2 \end{aligned}$$

or more simple:

$$\begin{aligned} & 2^{5x-7} = 8 = 2^3 \\ & 5x-7 = 3 \\ & x = 2 \end{aligned}$$

$$\begin{aligned} 2. \quad & 4^{6x-16} = 16 \\ & \log 4^{6x-16} = \log 16 \\ (6x-16) \cdot \log 4 &= \log 16 && \left| \div \log 4 \right. \\ & 6x-16 = 2 \\ & x = 3 \end{aligned}$$

or more simple:

$$\begin{aligned} & 4^{6x-16} = 16 = 4^2 \\ & 6x-16 = 2 \\ & x = 3 \end{aligned}$$