

1.38
2

$$\begin{cases} 5 \log x + 8 \log y = 14 \\ (\log x - 6)(\log y - 5) = 16 \end{cases} \quad \log y = t, \log x = w \quad | \cdot 10 |$$

התחלה
 $x, y > 0$

$$\begin{cases} 5w + 8t = 14 \\ (w - 6)(t - 5) = 16 \quad | \cdot 5 \end{cases}$$

$$\begin{cases} 5w = 14 - 8t \\ 5(w - 6)(t - 5) = 80 \end{cases}$$

$$\begin{cases} 5w = 14 - 8t \\ (5w - 30)(t - 5) = 80 \quad : \text{הפרט את המשוואה הראשונה} \end{cases}$$

$$(14 - 8t - 30)(t - 5) = 80$$

$$(-8t - 16)(t - 5) = 80$$

$$-8(t + 2)(t - 5) = 80 \quad | : (-8)$$

$$t^2 - 3t - 10 = -10$$

$$t = 0, 3$$

$$w = \frac{14}{5}, -2$$

$$\rightarrow \begin{cases} \log y = 0 \rightarrow y = 1 \\ \log x = \frac{14}{5} \rightarrow x = 10^{\frac{14}{5}} \end{cases} \quad \left(10^{\frac{14}{5}}, 1\right)$$

$$\begin{cases} \log y = 3 \rightarrow y = 10^3 \\ \log x = -2 \rightarrow x = \frac{1}{100} \end{cases} \quad \left(\frac{1}{100}, 1000\right)$$