

$$\frac{1.54}{2} \quad \left\{ \begin{array}{l} \sqrt[y]{4^x} = 32^x \sqrt[8]{y} \\ \sqrt[y]{3^x} = 3 \sqrt[y]{9^{1-y}} \end{array} \right.$$

$$\left\{ \begin{array}{l} \sqrt[y]{2^{2x}} = 2^5 \sqrt[2]{2^{3y}} \\ \sqrt[y]{3^x} = 3 \sqrt[2]{3^{2(1-y)}} \end{array} \right.$$

$$\left\{ \begin{array}{l} 2^{\frac{2x}{y}} = 2^{5 + \frac{3y}{x}} \\ 3^{\frac{x}{y}} = 3^{1 + \frac{2-2y}{y}} \end{array} \right.$$

$$\left\{ \begin{array}{l} \frac{2x}{y} = 5 + \frac{3y}{x} \\ \frac{x}{y} = 1 + \frac{2-2y}{y} \end{array} \right.$$

תורת המספרים

למשל $t = \frac{x}{y}$ תמיד יהיה המספר

$$2t = 5 + \frac{3}{t}$$

$$2t^2 - 5t - 3 = 0$$

$$t = 3 \rightarrow \frac{x}{y} = 3 \rightarrow x = 3y$$

$$t = -\frac{1}{2} \rightarrow \frac{x}{y} = -\frac{1}{2} \rightarrow y = -2x$$

במקרה $\frac{x}{y}$ לא יהיה המספר

$$\frac{x}{y} = 3: \quad 3 = 1 + \frac{2-2y}{y}$$

$$2 = \frac{2(1-y)}{y} \rightarrow y = 1-y \rightarrow \boxed{y = \frac{1}{2} \rightarrow x = \frac{3}{2}}$$

$$\frac{x}{y} = -\frac{1}{2}: \quad -\frac{1}{2} = 1 + \frac{2(1-y)}{y} \rightarrow -3y = 4-4y \rightarrow \boxed{y = 4 \rightarrow x = -2}$$