

$$a) \quad \frac{1}{x} + \frac{1}{\sqrt{x}} = 650$$

Sätt $t = \frac{1}{\sqrt{x}}$. Då $t^2 = \frac{1}{x}$ och vi får

$$t^2 + t = 650$$

\Leftrightarrow

$$t^2 + t - 650 = 0$$

$$t = -\frac{1}{2} \pm \sqrt{\left(\frac{1}{2}\right)^2 + 650} = -\frac{1}{2} \pm \sqrt{\frac{1}{4} + \frac{2600}{4}} =$$

$$= -\frac{1}{2} \pm \sqrt{\frac{2601}{4}} = -\frac{1}{2} \pm \frac{51}{2}$$

$$t_1 = 25, \quad t_2 = -26$$

$$t = \frac{1}{\sqrt{x}} \text{ ger}$$

$$t_1 = 25; \quad \frac{1}{\sqrt{x}} = 25 \Leftrightarrow \sqrt{x} = \frac{1}{25} \Leftrightarrow x = \frac{1}{625}$$

$$t_2 = -26; \quad \frac{1}{\sqrt{x}} = -26 \text{ lösning saknas}$$

$$\underline{\text{Svar:}} \quad x = \frac{1}{625}$$

$$b) \quad x^{2/3} - 5x^{1/3} + 6 = 0$$

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Sätt $t = x^{1/3}$. Då $t^2 = x^{2/3}$ och

$$t^2 - 5t + 6 = 0$$

\Leftrightarrow

$$t_1 = 2, \quad t_2 = 3$$

$$t = x^{1/3} \quad \text{ger}$$

$$t_1 = 2 : \quad x^{1/3} = 2 \quad \Leftrightarrow \quad x = 2^3 = 8$$

$$t_2 = 3 : \quad x^{1/3} = 3 \quad \Leftrightarrow \quad x = 3^3 = 27$$

Svar: $x = 8$ eller $x = 27$