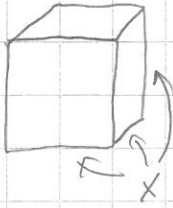


$$\Rightarrow x^3 = \frac{814}{256} \quad |^3\sqrt{\quad} \quad \Leftrightarrow x = \sqrt[3]{\frac{814}{256}} \approx 1,47049 \approx \underline{1,47}$$

9.11



tilavuuks: $x^3 = 220 \text{ km}^3 \quad |^3\sqrt{\quad}$

$$\Leftrightarrow x = \sqrt[3]{220 \text{ km}^3} \approx 6,0368 \text{ km} \approx \underline{6,04 \text{ km}}$$

(= 6040 m)

9.12 luonnolliset luvut: $\mathbb{N} = \{0, 1, 2, \dots\}$

$$\begin{aligned} & 3000 \dots 5000 \\ & \sqrt[3]{3000} \approx 14,422 \\ & \sqrt[3]{3001} \approx 14,424 \\ & \sqrt[3]{3002} \approx 14,426 \\ & \vdots \end{aligned}$$

$$\rightarrow \sqrt[3]{x} = 15 \quad \Leftrightarrow x = 15^3 = \underline{3375}$$

$$\sqrt[3]{x} = 16 \quad \Leftrightarrow x = 16^3 = \underline{4096}$$

$$\sqrt[3]{5000} \approx 17,0998 \rightarrow \sqrt[3]{x} = 17 \quad \Leftrightarrow x = 17^3 = \underline{4913}$$

9.19

$$\begin{aligned} \sqrt[3]{100\,000} & \approx 46,42159 \\ \sqrt[3]{100\,001} & \approx 46,416 \\ \sqrt[3]{100\,002} & \approx 46,4162 \\ & \vdots \end{aligned}$$

$$\sqrt[3]{x} = 47 \quad |()^3 \quad \Leftrightarrow x = 47^3 = \underline{103\,823 \text{ (e)}}$$

9.20

myt: 28 000
1 ruoder tulutus: $x \cdot 28\,000$

2 - 1 - - : $x^2 \cdot 28\,000$

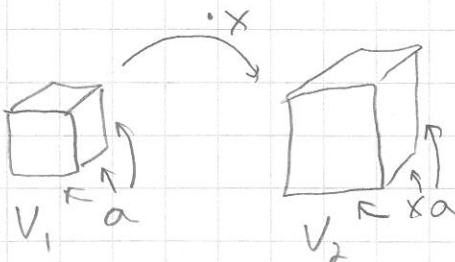
a) 3 - 1 - - : $x^3 \cdot 28\,000 = 17\,000 \quad | : 28\,000$

$$\Leftrightarrow x^3 = \frac{17}{28} \quad |^3\sqrt{\quad}$$

$$\Leftrightarrow x = \sqrt[3]{\frac{17}{28}} \approx 0,8468 \approx \underline{0,85}$$

b) 5 ruoder tulutus: $x^5 \cdot 28\,000 = \left(\sqrt[3]{\frac{17}{28}}\right)^5 \cdot 28\,000$
 $\approx 12\,189,2 \approx \underline{12\,000 \text{ (e)}}$

9.21



$$V_2 = 2V_1$$

$$\Leftrightarrow (xa)^3 = 2 \cdot a^3$$

$$\Leftrightarrow x^3 a^3 = 2a^3 \quad | : a^3$$

$$\Leftrightarrow x^3 = \frac{2a^3}{a^3} = 2 \quad |^3\sqrt{\quad}$$

$$\Leftrightarrow x = \sqrt[3]{2} \approx 1,25992 \approx \underline{1,26}$$