

2)

$$\sqrt[2]{\sqrt[2]{\sqrt[2]{\sqrt[2]{\sqrt[2]{64}}}}} = ?$$

$$\sqrt[2]{\sqrt[2]{\sqrt[2]{\sqrt[2]{\sqrt[2]{64}}}}} = 2 \times 2 \times 2 \times 2 \times 2 \sqrt[2]{64} = {}^{32}\sqrt{64}$$