
高等应用数学作业 2

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$$33^{1/5} = (32 + 1)^{1/5} = 2 \left(1 + \frac{1}{32} \right)^{1/5} = 2 \left(1 + \frac{1}{5} \times \frac{1}{32} - \frac{R}{2} \right) = \frac{161}{80} - R \quad (1.1)$$

$$R = \frac{1}{5} \times \frac{4}{5} \times \frac{1}{32^2} + O \left(\frac{1}{32^3} \right) \approx \frac{1}{25 \times 256} \approx \frac{1}{6 \times 1000} = \frac{10}{6} \times 10^{-4} \approx 1.7 \times 10^{-4} \quad (1.2)$$