$$q = \sqrt[k+1]{\frac{b}{a}}$$



$$a, x_1, x_2, \dots, x_k, b$$

$$x_1 = aq \qquad b = aq^{k+1}$$

$$x_2 = x_1 q = aq^2 \qquad q = \sqrt[k+1]{\frac{b}{a}}$$

$$x_3 = x_2 q = aq^3$$

$$x_k = aq^k$$

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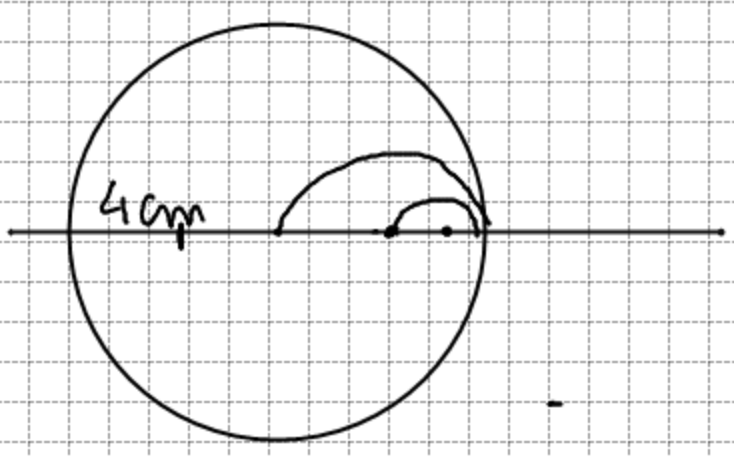


$$r_1 = 4\,cm \qquad r_2 = \frac{r_1}{2}$$

$$r_3 = \frac{r_1}{2^2} \qquad r_4 = \frac{r_1}{2^3} \qquad r_{m+1} = \frac{r_1}{2^m}$$

$$C_1 = \pi r_1 \qquad C_2 = \frac{r_1}{2}\pi \qquad C_3 = \frac{r_1}{2^2}\pi \qquad C_4 = \frac{r_1}{2^3}\pi \qquad C_m = \frac{r_1}{2^m}\pi$$

$$\frac{C_2}{C_1} = \frac{\frac{r_1}{2}\pi}{2\pi r_1} = \frac{r_1}{2}\cdot\frac{1}{2r_1} = \frac{1}{2} \qquad \frac{C_3}{C_2} = \frac{\frac{r_1}{2^2}\pi}{\frac{r_1}{2}\pi} = \frac{r_1}{2^2}\cdot\frac{2}{r_1} = \frac{1}{2}$$

$$\frac{C_4}{C_3} = \frac{\frac{r_1}{2^3}\pi}{\frac{r_1}{2^2}\pi} = \frac{r_1}{2^3}\cdot\frac{2^2}{r_1} = \frac{1}{2} \qquad \frac{C_{k+1}}{C_k} = \frac{\frac{r_1}{2^k}\pi}{\frac{r_1}{2^{k-1}}\pi} =$$

$$2^k = \underbrace{2\cdot 2\cdot 2\cdots 2}_{k-1} \cdot \underbrace{2^{k-1}\cdot 2}$$

$$2^3 = 2\cdot 2\cdot 2 \qquad k \text{ volte}$$

$$= \frac{r_1\pi}{2^k}\cdot\frac{2^{k-1}}{r_1\pi} = \frac{1}{2}$$

$$2^{k-1}\cdot 2$$

$$S_5 = 4\pi\frac{\left(\frac{1}{2}\right)^5 - 1}{\frac{1}{2} - 1} \qquad S_5 = 4\pi\cdot\frac{\frac{1}{32} - 1}{-\frac{1}{2}} =$$

$$S_5 = \left(\frac{1}{32} - 1\right)\left(-8\pi\right) \qquad S_5 = \left(\frac{1-32}{32}\right)\left(-8\pi\right) \qquad S_5 = \left(\frac{-31}{32}\right)\left(-8\pi\right)$$

$$8 \to 16 \to 32 \qquad 4 \to 8$$

$$S_5 = \frac{31}{4}\pi \qquad \frac{A}{2} = \frac{\pi r^2}{2}$$

$$A_1 = \frac{\pi}{2}r_1^2 \qquad A_2 = \frac{\pi}{2}r_2^2 = \frac{\pi}{2}\left(\frac{r_1}{2}\right)^2 = \frac{\pi r_1^2}{2^3}$$

$$A_3 = \frac{\pi}{2}r_3^2 = \frac{\pi}{2}\left(\frac{r_1}{2^2}\right)^2 = \frac{\pi r_1^2}{2^5} \qquad q = \frac{1}{4}$$

$$A_4 = \frac{\pi}{2}r_4^2 = \frac{\pi}{2}\left(\frac{r_1}{2^3}\right)^2 = \frac{\pi r_1^2}{2^7} \qquad A_n = \frac{\pi r_1^2}{2^{2n+1}}$$