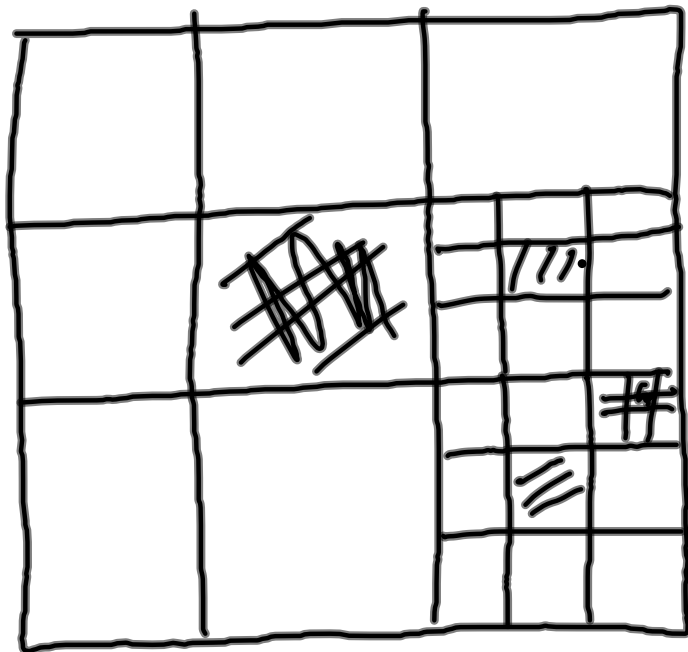


СИЕРП. КОБ. - $S = ?$



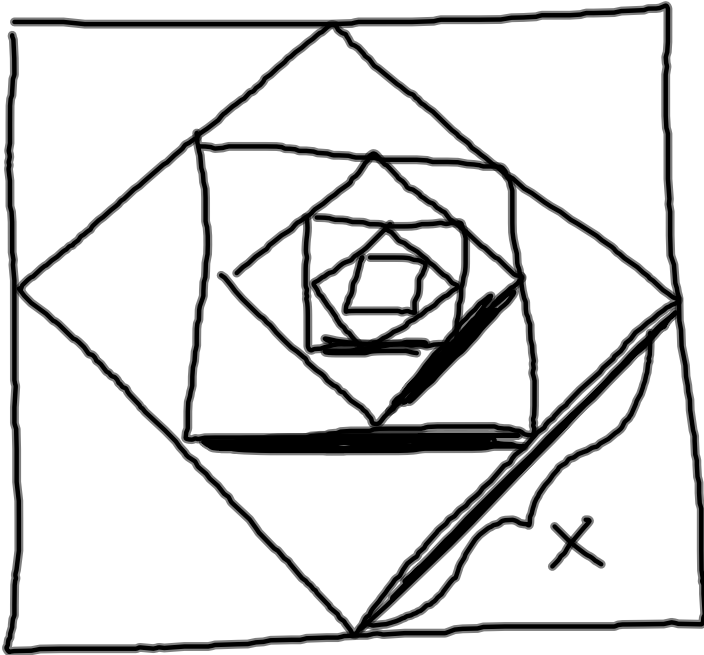
$$\begin{aligned}
 S &= 1 - (2) = \\
 &= 1 - \sum_{n=0}^{\infty} \frac{8^n}{9^{n+1}} = \\
 &= 1 - \frac{1}{9} \cdot \sum_{n=0}^{\infty} \left(\frac{8}{9}\right)^n =
 \end{aligned}$$

$$\left[\frac{1}{9} + 8 \cdot \frac{1}{9^2} + 8^2 \cdot \frac{1}{9^3} + \dots \right] = 1 - \frac{1}{9} \cdot \frac{1}{1 - \frac{8}{9}} =$$

$$= 1 - \frac{1}{9} \cdot \frac{1}{\frac{1}{9}} =$$

$$= \textcircled{0}$$

$$a > 0$$



$$x^2 = \left(\frac{a}{2}\right)^2 + \left(\frac{a}{2}\right)^2 = 2 \frac{a^2}{4} = \frac{a^2}{2}$$

$$x = \frac{a}{\sqrt{2}}$$

$$\begin{aligned} S &= a^2 + \frac{a^2}{2} + \frac{a^2}{4} + \dots \\ &= a^2 \cdot \left(1 + \frac{1}{2} + \frac{1}{4} + \dots\right) = \\ &= a^2 \cdot \sum_{n=0}^{\infty} \left(\frac{1}{2}\right)^n = \underline{\underline{2a^2}} \end{aligned}$$

$$\begin{aligned} \sigma &= \underline{\underline{4a}} + 4 \cdot \frac{a}{\sqrt{2}} + 4 \cdot \frac{a}{2} + \dots \\ &= (4a + \underline{\underline{2a}} + \underline{\underline{a}} + \dots) + \\ &\quad + \left(\frac{4a}{\sqrt{2}} + \frac{2a}{\sqrt{2}} + \dots\right) = \end{aligned}$$

$$\begin{aligned} &= \left(1 + \frac{1}{\sqrt{2}}\right) \cdot (4a + 2a + a + \dots) = \left(1 + \frac{1}{\sqrt{2}}\right) \cdot 4a \cdot \\ &\quad \cdot \sum_{n=0}^{\infty} \left(\frac{1}{2}\right)^n = 8a \cdot \left(1 + \frac{1}{\sqrt{2}}\right) \end{aligned}$$

