

()

$a:b, b \neq 0$

$\sqrt{2}$

1. $a = n^2, n \geq 2, \sqrt[n]{a}$

$\frac{p^n}{q^n} = \frac{a}{1}, a = p^n, q = 1.$

$\sqrt[n]{a} = \sqrt[n]{p^n} = p, \dots$

2. 0,1234567891011121314...

$a = 0,1234567891011121314...$

k

$$3k, \dots, \underbrace{10\dots0}_{3k}, -$$

$$3k, ,$$

$$a .$$

3. $a \quad b \quad a^b$

$$\sqrt{2}^{\sqrt{2}} .$$

$$a = b = \sqrt{2} . \quad \sqrt{2}^{\sqrt{2}}$$

$$a = \sqrt{2}^{\sqrt{2}} \quad b = \sqrt{2} ,$$

$$a^b = (\sqrt{2}^{\sqrt{2}})^{\sqrt{2}} = \sqrt{2}^{\sqrt{2} \cdot \sqrt{2}} = \sqrt{2}^2 = 2$$

$$3 ,$$

$$\sqrt{2}^{\sqrt{2}}$$

$$\sqrt{2}^{\sqrt{2}}$$

1. $\sqrt{\overline{ababab}} , \quad a \neq 0 \quad b ,$

$$10101 = 3 \cdot 7 \cdot 13 \cdot 37 . \quad \overline{ababab}$$

$$\overline{ab} \cdot 10101 ,$$

$$3^2, 7^2, 13^2 \quad 37^2 . \quad \overline{ab} \quad 3 ,$$

$$7, 13 \quad 37 , \quad \overline{ababab}$$

$$1 \quad \sqrt{\overline{ababab}}$$

2. $n \times n \times n$,
 n^3 . n

?

 $(n-2)^3$,

$n^3 = 2(n-2)^3$. , $2 = \frac{n^3}{(n-2)^3}$, $\sqrt[3]{2} = \frac{n}{n-2}$,

$\sqrt[3]{2}$, $\frac{n}{n-2}$.

1. \sqrt{abcabc} .
2. $10^{-1} + 10^{-4} + 10^{-9} + 10^{-16} + 10^{-25} + \dots$.