

$$(1 + 4 + 12 + \dots + 24)(1 + 24 + 12 + \dots + 24) \rightarrow (7)(4) = 28$$

$$\text{مکان} = 2$$

کامل 0 از اینجا به بعد  
 مکان صفر  
 مکان صفر

یکی به اعداد صفر است

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$$\sqrt[4]{\frac{1}{4+\sqrt{4}}} \sqrt[4]{1+2\sqrt{4}} = \sqrt[4]{\frac{1+2\sqrt{4}}{4+\sqrt{4}}} = \sqrt[4]{2}$$

(الف)

$$\left( \frac{\sqrt{2}+\sqrt{5}}{\sqrt{2}(\sqrt{5}+\sqrt{2})} \right) (\sqrt{3}-\sqrt{5} - \sqrt{3}+\sqrt{5})$$

(ب)

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$$\frac{(2\sqrt{2}+3\sqrt{3})(5+\sqrt{6})}{25-6} - \frac{2}{\sqrt{3}-1} = \frac{19\sqrt{2}+19\sqrt{3}}{19} - \frac{2(\sqrt{3}+1)}{2} = \frac{19(\sqrt{2}+\sqrt{3})}{19} - (\sqrt{3}+1) = \sqrt{2}-1$$

(الف)

$$\frac{(3\sqrt{3}-1)(4-\sqrt{3})}{14-3} + \frac{1}{2-\sqrt{3}} = \frac{73(\sqrt{3}-1)}{11} + \frac{2+\sqrt{3}}{4-3} = 2\sqrt{3}+1$$

(ب)

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(الف)

$$2^{\frac{1}{2}} \times 3 \times 2^{\frac{1}{4}} \times 2 \times 2^{\frac{1}{8}} = 4 \times \underbrace{2^{\frac{1}{4}} \times 2^{\frac{1}{4}} \times 2^{\frac{1}{4}} \times 2^{\frac{1}{4}}}_{4} = 16$$

(ب)

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$$\frac{2^x(1+3+9+27+81+243)}{2^x(\frac{1}{4}+\frac{1}{2}+1+2+4+8)} = 52 \Rightarrow \frac{2^x 4 \times 3^5}{\frac{63}{4} \times 2^x} = 52 \Rightarrow \left(\frac{2}{3}\right)^x = \frac{4 \times 3^5}{63 \times 4} \Rightarrow x = 2$$

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$$(a-b)^F (a+b)^F = (a^F - b^F)^F \rightarrow (a^F - b^F)^F = (F - \sqrt{F}(\sqrt{F}-1))^F = 1(F - \sqrt{F}) = 14(F - \sqrt{F}) \quad (1)$$

$$(a^F - b^F) = \sqrt{\sqrt{F}-F} - \sqrt{\sqrt{F}+F}$$

$$(a^F - b^F)^F = (\sqrt{\sqrt{F}-F} - \sqrt{\sqrt{F}+F})^F = \sqrt{F}-F + \sqrt{F}+F - F \sqrt{(\sqrt{F}-F)(\sqrt{F}+F)} = F - \sqrt{F} - F \sqrt{F} = F - \sqrt{F} - F\sqrt{F}$$

$$(1) \rightarrow t(F - \sqrt{F}) = 14(F - \sqrt{F}) \Rightarrow t = 14$$

$$\left(a + \frac{1}{a}\right)^F - F = F^t \Rightarrow F^t = \left(a^F + \frac{1}{a^F} + F - F\right)^F = a^F + \frac{1}{a^F} + F$$

$$F^t = F - F\sqrt{F} + \frac{1}{F - F\sqrt{F}} + F = F - F\sqrt{F} + \frac{F + F\sqrt{F}}{1} + F = 14 \quad a = \sqrt{F - F\sqrt{F}}$$

$$F^t = 14 = F^F \Rightarrow t = F$$

$$A = \sqrt[F]{F\sqrt{14}} \left(\frac{1}{F}\right)^{-\frac{F}{F}} = \sqrt[F]{F\sqrt{14}} \sqrt[F]{F} = \sqrt[F]{F^2} = F^{\frac{2}{F}} = F$$

$$(FA)^{-\frac{1}{F}} = \sqrt[F]{\frac{1}{F}} = \frac{1}{F}$$

$$\sqrt{a} = F\sqrt{\sqrt{a}F} \Rightarrow 1 = F\sqrt{\sqrt{a}F} = F\sqrt{a^{\frac{1}{F}}F} \Rightarrow a = +\sqrt{\frac{1}{F}} = F^{-\frac{1}{F}}$$

$$\frac{1}{a} = F^{\frac{F}{F}} = F\sqrt{F} \rightarrow \frac{F\sqrt{F}-F}{\sqrt{F}+1} = \frac{F(\sqrt{F}-1)}{\sqrt{F}+1} \xrightarrow{\times \sqrt{F}-1} \frac{F(F-F\sqrt{F})}{F} = F - F\sqrt{F}$$

$$(\sqrt{x+a} - \sqrt{x-F})(\sqrt{x+a} + \sqrt{x-F}) = x+a - x+F \Rightarrow \sqrt{x+a} + \sqrt{x-F} = \frac{a}{F} + F$$

$$\sqrt{x+a} + \sqrt{x-F} - F = \frac{a}{F}$$