

۱ - ۲

$$\frac{(1! + 3! + 5! + \dots + 25!)}{1 + 4 + 12 + \dots + 25} \cdot \frac{(2! + 4! + 6! + \dots + 24!)}{2 + 12 + 18 + \dots + 24}$$

ہم اعداد بعد از ۵! بہ دلیل وجود عامل ۲ و ۵ یک نشان صفر است پس یکان کل پرانتر ۷ = ۱ + ۶ است۔

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۲ = ۶ - ۴
پس یکان عبارت = ۲ است۔

$$\sqrt[4]{(4 + \sqrt{7})^{-1}} \sqrt{1 + \sqrt{7}} = \sqrt[4]{\frac{1 + 2\sqrt{7}}{4 + \sqrt{7}}} = \sqrt[4]{\frac{2(4 + \sqrt{7})}{4 + \sqrt{7}}} = \sqrt[4]{2} \quad \text{۲ - ۱, ۵}$$

$$\text{ب) } \left(\frac{\sqrt{2 + 55}}{\sqrt{10 + 2}} \right) \left(\sqrt{3 - 55} - \sqrt{3 + 55} \right) = \frac{\sqrt{2}}{2} (\sqrt{3 - 55} - \sqrt{3 + 55})$$

$$\sqrt{2 + 55} = \sqrt{2} \quad \text{ب}$$

$$b^2 = 4 - 2\sqrt{4} = 2 \quad b < 0 \rightarrow b = -\sqrt{2}$$

$$\sqrt{1} = 1 \leftarrow \text{جزئی کبریم} \quad \frac{2}{4} (3 - 55 + 3 + 55 - 2\sqrt{9 - 55}) = \frac{2}{4} \times 2 = 1$$

$$ab = \frac{1}{\sqrt{2}} \times -\sqrt{2} = -1$$

$$2\sqrt{4} = 4$$

$$\text{الف) } \frac{\sqrt{18 + 5\sqrt{7}}}{5 - \sqrt{6}} \cdot 2(\sqrt{9} - 1)^{-1} \rightarrow 2\left(\frac{1}{\sqrt{3} - 1}\right)$$

$$\frac{2\sqrt{18 + 5\sqrt{7}}}{5 - \sqrt{6}} \times \frac{5 + \sqrt{6}}{5 + \sqrt{6}} = \frac{10\sqrt{18 + 5\sqrt{7}} + 15\sqrt{7} + 9\sqrt{7}}{25 - 6} = \frac{19(\sqrt{18 + 5\sqrt{7}})}{19} = \sqrt{18 + 5\sqrt{7}}$$

$$\sqrt{18 + 5\sqrt{7}} - \frac{2}{\sqrt{3} - 1} = \sqrt{18 + 5\sqrt{7}} - \sqrt{3} - 1 = \sqrt{18 + 5\sqrt{7}} - \sqrt{3} - 1$$

$$\frac{2}{\sqrt{3} - 1} \times \frac{\sqrt{3} + 1}{\sqrt{3} + 1} = \frac{2(\sqrt{3} + 1)}{3 - 1} = \sqrt{3} + 1$$

$$\text{ب) } \frac{\sqrt{27} - 1}{4 + \sqrt{3}} + (2 - \sqrt{3})^{-1} \rightarrow \frac{1}{2 - \sqrt{3}} \times \frac{2 + \sqrt{3}}{2 + \sqrt{3}} = \frac{2 + \sqrt{3}}{4 - 3} = 2 + \sqrt{3}$$

$$\frac{3\sqrt{3} - 1}{4 + \sqrt{3}} \times \frac{4 - \sqrt{3}}{4 - \sqrt{3}} = \frac{12\sqrt{3} - 4 - 3 + \sqrt{3}}{16 - 3} = \frac{13(\sqrt{3} - 1)}{13} = \sqrt{3} - 1$$

$$\sqrt{3} - 1 + 2 + \sqrt{3} = 2\sqrt{3} + 1$$

۴ - ۲

$$\text{الف) } \sqrt{1 + \sqrt{3}} + \sqrt{3} - 1 - 2 = 2 + \sqrt{6} - 2 = \sqrt{6}$$

$$\sqrt{3} - \sqrt{2} \rightarrow 2 \text{ بہ توان } \rightarrow \frac{1 + \sqrt{3} + \sqrt{3} - 1 + 2\sqrt{3} - 1}{\sqrt{3} - \sqrt{2}} = \frac{2\sqrt{3} + 2\sqrt{3}}{\sqrt{3} - \sqrt{2}}$$

$$\Rightarrow \frac{2\sqrt{3} + 2\sqrt{3}}{\sqrt{3} - \sqrt{2}} \times \frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} + \sqrt{2}} = \frac{4 + 4\sqrt{6}}{3 - 2} = 10 + 4\sqrt{6} \rightarrow \text{جزئی کبریم} \rightarrow \sqrt{10 + 4\sqrt{6}} = 2 + \sqrt{6}$$

$$\sqrt[12]{12} \times \sqrt[12]{12} \times \sqrt[12]{12} = \sqrt[12]{12} \times \sqrt[12]{12} \times \sqrt[12]{12} = \sqrt[12]{12^3} = 12 \times 12 = 144$$

$$\frac{r^{2n} + r^{2n+1} + r^{2n+2} + r^{2n+3} + r^{2n+4}}{r^{2n-2} + r^{2n-1} + r^{2n} + r^{2n+1} + r^{2n+2}} = \Delta r \Rightarrow \frac{r^n}{r^n} \left(\frac{1+r+1+r+1+r}{\frac{1}{r^2} + \frac{1}{r} + 1 + r + r^2} \right) = \Delta r - \Delta \quad (P)$$

$$\Rightarrow \frac{\mu x}{\mu n} \left(\frac{\mu y r}{\frac{y \mu}{r}} \right) = \Delta r \Rightarrow \frac{\mu n}{\mu n} \left(\frac{r \times \Delta r}{9} \right) = \Delta r \Rightarrow \frac{\mu n}{\mu n} \times \frac{r}{9} = 1 \Rightarrow n = r$$

$$((a^r + b^r - r a^r b^r)(a^r + b^r + r a^r b^r))^r = \underbrace{(a^r + b^r - r a^r b^r)^r}_{a^r + b^r - r a^r b^r} \quad \text{--- (r)}$$

$$(a^r + b^r - r a^r b^r)^r \xrightarrow[\sqrt{r+1}]{\sqrt{r-1}} -r(ab)^r = -r(\sqrt{r})^r = -r^r \sqrt{r}$$

$$(\sqrt{9-x} + \sqrt{9+x} - 2\sqrt{x})^2 = (2\sqrt{9-x} - 2\sqrt{x})^2 = 4x + 1 - 4\sqrt{12} = 4x - 14\sqrt{3} = 14(x - \sqrt{3})$$

$$t(x - \sqrt{3}) = 14(x - \sqrt{3}) \Rightarrow t = 14$$

$$\alpha = \sqrt[r]{V - K\sqrt{r}} = \sqrt[r]{(V - \sqrt{r})^r} = \sqrt[r]{V - \sqrt{r}}$$

$$\left(\left(a + \frac{1}{a} + \sqrt{r} \right) \left(a + \frac{1}{a} - \sqrt{r} \right) \right)^r = \left(a^r + \frac{1}{a^r} + r - r \right)^r = \left(a^r + \frac{1}{a^r} \right)^r$$

$$(a^r + \frac{1}{a^r})^r = (r - \sqrt{r} + \frac{1}{r - \sqrt{r}})^r = (r - \sqrt{r} + r + \sqrt{r})^r = r^r = 14^r = r^t$$

$t = r$

$$A = \sqrt[9]{5^9 \sqrt{14}} \left(\frac{1}{5}\right)^{-\frac{9}{5}} = \sqrt[9]{5^9} \times 14^{\frac{1}{18}} \times 5^{\frac{9}{5}} = 5 \times 14^{\frac{1}{18}} \times 5^{\frac{9}{5}} = 5^{\frac{14}{5}} \times 14^{\frac{1}{18}} = 5^{\frac{14}{5}} \times 14^{\frac{1}{18}}$$

$$(YA)^{-\frac{1}{\nu}} = (1)^{-\frac{1}{\nu}} = \left(\frac{1}{1}\right)^{\frac{1}{\nu}} = \frac{1}{\nu}$$

$$\sqrt[r]{a} = r^{\frac{1}{r}} a^{\frac{1}{r}} \Rightarrow \frac{\sqrt[r]{a}}{\sqrt[r]{a^{10}}} = r^{\frac{1}{r}} \Rightarrow \sqrt[r]{\frac{1}{a^{10}}} = r^{\frac{1}{r}} \Rightarrow \frac{1}{a^{\frac{10}{r}}} = r^{\frac{1}{r}} \Rightarrow a^{\frac{10}{r}} = \frac{1}{r^{\frac{1}{r}}} \quad (2) - 9$$

$$\frac{1}{a} \cdot r = r \sqrt[r]{r} = r \rightarrow \frac{r \sqrt[r]{r} - r}{1 + \sqrt[r]{r}} \times \frac{\sqrt[r]{r} - 1}{\sqrt[r]{r} - 1} = \frac{r - r \sqrt[r]{r}}{r} \rightarrow a = \frac{1}{r \sqrt[r]{r}}$$

$$= \frac{1}{r - r \sqrt[r]{r}}$$

$$\sqrt{x+a} - \sqrt{x-f} = p \quad \text{ضرب طرفین} \Rightarrow \sqrt{x+a} + \sqrt{x-f} = \frac{a+f}{p}$$