

تکریم

$$(2k!) (2k+1!) \quad \underbrace{11+21+31+\dots+201}_{\text{دوره های ۲۰۲}} \quad \underbrace{21+31+41+\dots+201}_{\text{دوره های ۲۰۲}}$$

$$\left. \begin{array}{l} 1! = 1 \\ 3! = 6 \end{array} \right\} V$$

$$\left. \begin{array}{l} 2! = 2 \\ 4! = 24 \end{array} \right\} 27$$

$$27 \times 27$$

حاصل می شود

$$= \sqrt[4]{\frac{1}{4+2\sqrt{2}}} \times \sqrt[4]{(1+\sqrt{2})^2} = \sqrt[4]{\frac{1+2\sqrt{2}}{4+2\sqrt{2}}} = \sqrt[4]{\frac{1+\sqrt{2}}{2}} = \sqrt[4]{2}$$

۱) $\left[\frac{\sqrt{2} + \sqrt{5}}{\sqrt{10} + 2} \right] \left(\sqrt{3-\sqrt{5}} - \sqrt{3+\sqrt{5}} \right)$

$$\left[\frac{\sqrt{2} + \sqrt{5}}{\sqrt{10} + 2} \times \frac{\sqrt{10} - 2}{\sqrt{10} - 2} \right] \left(\sqrt{3-\sqrt{5}} - \sqrt{3+\sqrt{5}} \right)$$

$$\frac{\sqrt{2} + \sqrt{5}}{\sqrt{10} + 2} \times \frac{\sqrt{10} - 2}{\sqrt{10} - 2} = \frac{\sqrt{20} - 2\sqrt{2} + \sqrt{50} - 2\sqrt{5}}{10 - 4} = \frac{\sqrt{20} + \sqrt{50} - 2\sqrt{2} - 2\sqrt{5}}{6}$$

$$\frac{\sqrt{2}}{2} \times 5 = \frac{5\sqrt{2}}{2}$$

$$A^2 = 3 - \sqrt{5} + 3 + \sqrt{5} - 2\sqrt{9-5} = 9 - 2\sqrt{4} = 9 - 4 = 5$$

۳) $\frac{\sqrt{1} + \sqrt{27}}{2 - \sqrt{2}} - 2(\sqrt{9} - 1)$

$$\frac{(\sqrt{1} + \sqrt{27})(2 + \sqrt{2})}{(2 - \sqrt{2})(2 + \sqrt{2})} - 2(\sqrt{9} - 1)$$

$$\frac{2\sqrt{1} + 2\sqrt{27} + \sqrt{2} + \sqrt{54}}{4 - 2} - 2(3 - 1)$$

$$\frac{2 + 6\sqrt{3} + \sqrt{2} + 3\sqrt{6}}{2} - 4$$

$$\frac{2 + 6\sqrt{3} + \sqrt{2} + 3\sqrt{6}}{2} - 4 = \frac{2 + 6\sqrt{3} + \sqrt{2} + 3\sqrt{6} - 8}{2} = \frac{-6 + 6\sqrt{3} + \sqrt{2} + 3\sqrt{6}}{2}$$

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

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

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

$$\left(\sqrt{3+1} + \sqrt{3-1} \right)^2 = 2\sqrt{3} + 2\sqrt{1} = 2(\sqrt{3} + 1) \Rightarrow \frac{2(\sqrt{3} + 1)}{\sqrt{3}-\sqrt{2}} \times \frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}+\sqrt{2}} = \frac{2(\sqrt{3} + 1)(\sqrt{3} + \sqrt{2})}{3-2} = 2(\sqrt{3} + 1)(\sqrt{3} + \sqrt{2})$$

Arman

$$y_2 + 10 - 4x - 12 = 0 \quad y = -4x - 12$$

$$(a^x - b^x)^x = a^x + b^x - x a^{x-1} b^x = (\sqrt{x} - 1)^x + (\sqrt{x} + 1)^x - x(\sqrt{x} + 1)(\sqrt{x} - 1)$$

15. $a \leq \sqrt{V - F\sqrt{r}} \leq \sqrt{(V - (F)^2)}$ (سوال V)

$$(\sqrt{r-\sqrt{r}} + \sqrt{r-\sqrt{r}} + \sqrt{r})$$

ist

[illegible]

$$(\underbrace{r \times r}_{r^2} \times r)^{-\frac{1}{r}} = (r^3)^{-\frac{1}{r}} = r^{-1}$$

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

$$\sqrt[v]{a} = \sqrt[v]{r} \times a^{\frac{10}{v}}$$

$$a^{\frac{1}{v}} = a^{\frac{10}{v}} \times r^r$$

(9/12)

$$a^{\frac{1}{v} - \frac{10}{v}} = r^r$$

$$a^{-\frac{9}{v}} \times r^r = a^{-r} = r^r$$

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

$$a^r = \frac{1}{r^r}$$

$$a = \sqrt[r]{\frac{1}{r^r}}$$

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$$\sqrt{x+a} + \sqrt{x-r} = A$$

$$\sqrt{x+a} - \sqrt{x-r} = r$$

$$\left\{ \begin{array}{l} \text{If } A \leq x+a - (x-r) = a+r \\ \end{array} \right.$$

$$A = \frac{a+r}{r} = \frac{\sqrt{x+a} + \sqrt{x-r}}{r} = \frac{a+r}{r}$$

$$= \frac{a+r-r}{r} = \frac{a}{r}$$