

۱۹۱۷۵ انجین

۲

$$(11+31+51+\dots+251)(21+41+61+\dots+261)$$

۱۱ ۳۱ ۵۱
۱۲ ۲۴ ۳۶
۱+۲=۳
۲+۳=۵

$$2+24=26$$

$$7 \times 2 = 14 \rightarrow \text{نوع} = 2$$

$$\sqrt{(4+5\sqrt{2})^{-1}} \sqrt{1+\sqrt{2}} \rightarrow \sqrt{(4+5\sqrt{2})^{-1}} \times \sqrt{(1+\sqrt{2})^2} \rightarrow \sqrt{\frac{1}{4+5\sqrt{2}} \times \frac{1+2\sqrt{2}}{2(4+5\sqrt{2})}} = \sqrt{2}$$

منتهات

۱۱۷۵

$$\left(\frac{\sqrt{2}+\sqrt{5}}{\sqrt{10}+2}\right) \left(\sqrt{3}-\sqrt{5}-\sqrt{3+5}\right) \rightarrow \frac{2+5+2\sqrt{10}}{10+4+4\sqrt{10}} \times \left(\sqrt{3}-\sqrt{5}+\sqrt{3+\sqrt{5}}\right) = 1$$

عبارت = ۱
عبارت = +۱
عبارت = -۱

$$\frac{\sqrt{8}+\sqrt{27}}{5-\sqrt{6}} - 2(\sqrt{9}-1)^{-1} = \frac{2\sqrt{2}+3\sqrt{3}}{5-\sqrt{6}} - 2 \times \frac{1}{\sqrt{3}-1} \times \frac{\sqrt{3}+1}{\sqrt{3}+1}$$

$$\frac{2\sqrt{2}+3\sqrt{3}}{5-\sqrt{6}} \times \frac{5+\sqrt{6}}{5+\sqrt{6}} \rightarrow \frac{19\sqrt{2}+19\sqrt{3}}{19} \rightarrow \frac{19(\sqrt{2}+\sqrt{3})}{19} \rightarrow \sqrt{2}+\sqrt{3}$$

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

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

$$\frac{(3\sqrt{3}-1)(2-\sqrt{3})}{13} \times \frac{2+\sqrt{3}}{2+\sqrt{3}} \rightarrow 12\sqrt{3}-9-4+\sqrt{3} \rightarrow 13\sqrt{3}-13 \rightarrow 13(\sqrt{3}-1)$$

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

$$\frac{\sqrt{2(\sqrt{3}+2)}}{\sqrt{\sqrt{3}-2}} \times \frac{\sqrt{\sqrt{3}+2}}{\sqrt{\sqrt{3}+2}} = \sqrt{\frac{10+4\sqrt{6}}{1}} \rightarrow \sqrt{(\sqrt{2}+2)^2} \rightarrow |\sqrt{2}+2| - 2 = \sqrt{2}$$

$$\sqrt[12]{2^8} \times \sqrt[12]{162} \times \sqrt[12]{\sqrt{2}} \rightarrow \sqrt[12]{2^8} \times \sqrt[12]{3^4 \times 2^3} \times \sqrt[12]{2^{\frac{1}{2}}} \rightarrow 2^{\frac{8}{12}} \times 3^{\frac{1}{3}} \times 2^{\frac{3}{12}} \times 2^{\frac{1}{24}} = 6 \times 2 = 12$$

$$\frac{2^m(1+3+9+27+81+243)}{2^{m-2}(1+2+4+8+16+32)} = \frac{2^m \times 364}{2^{m-2} \times 63} = \frac{2^m \times 52}{2^{m-2} \times 9} = 1 \rightarrow \frac{2^m}{2^{m-2}} \times \frac{52}{9} = 1$$

$$\frac{2^m}{2^{m-2}} = \frac{9}{52} \left(\frac{52}{9}\right)^m = \frac{9}{52} \rightarrow m=2$$

$$(\sqrt{4-r} - \sqrt{4+r})^r (\sqrt{4-r} + \sqrt{4+r})^r \rightarrow ((\sqrt{4-r} - \sqrt{4+r})^r)^r \quad (9)$$

$$\underbrace{(\sqrt{4-r} + \sqrt{4+r} - r\sqrt{r})^r}_{2\sqrt{4-r} - 2\sqrt{r}} = \frac{r^r + 1 - 1\sqrt{r}}{r^r} \rightarrow \frac{14(r - \sqrt{r})}{r^r - \sqrt{r}} = 14 \quad (10)$$

$$a = \sqrt{r - \sqrt{r}} \rightarrow a = \sqrt{r - \sqrt{r}} \rightarrow (a + \frac{1}{a} + \sqrt{r})^r (a + \frac{1}{a} - \sqrt{r})^r \quad (11)$$

$$\left(\left(a + \frac{1}{a} \right)^r - (\sqrt{r})^r \right)^r \rightarrow \left(r - \sqrt{r} + \frac{1}{r - \sqrt{r}} \right)^r \rightarrow r^r \rightarrow r^r = r^r \rightarrow r = r \quad (12)$$

$$A = \sqrt[r]{r^{10}} \times r^{\frac{r}{r}} \rightarrow r^{\frac{r}{r}} \times r^{\frac{r}{r}} \rightarrow r^r = r^r$$

$$(rA)^{-\frac{1}{r}} \rightarrow \sqrt[r]{\frac{1}{r}} = \frac{1}{r}$$

$$a^{\frac{1}{r}} = r^{\frac{1}{r}} \times a^{\frac{10}{r}} \rightarrow 1 = r^{\frac{1}{r}} \times a^{\frac{10}{r}} \rightarrow a^r = \frac{1}{r^r} \rightarrow a = \frac{1}{r + \sqrt{r}}$$

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

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

$$\sqrt{m+a} - \sqrt{m-r} = r \quad (\sqrt{m+a} - \sqrt{m-r}) \left(\frac{\sqrt{m+a} + \sqrt{m-r}}{\frac{a+r}{r}} \right) \quad (10)$$

$$\sqrt{m+a} + \sqrt{m-r} - r = ? \quad m + am + r = a + r$$

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

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

$$(\sqrt{r - \sqrt{a}} - \sqrt{r + \sqrt{a}})^r = r - \sqrt{a} + r + \sqrt{a} - r\sqrt{a - a} = 4 - r = r$$

$$\rightarrow b^r = r \rightarrow b = -\sqrt{r} \rightarrow \frac{1}{r^r} \times (-\sqrt{r}) = -1$$

