

التي داخلوها «عبرها»

$$\left(\frac{9+1}{1!+2!} + 0! + \dots \right) \left(\frac{2+4=6}{1!+2!+3!} + \dots \right) = 4 \times 6 = 24 \rightarrow \text{رقم کون} = 24$$

الف) $\sqrt[4]{(x+\sqrt{x})^{-1}(1+\sqrt{x})^2} = \sqrt[4]{\frac{1+2\sqrt{x}}{x+\sqrt{x}}} = \sqrt[4]{\frac{4(x+\sqrt{x})}{x+\sqrt{x}}} = \sqrt[4]{4} \rightarrow \frac{1}{\sqrt[4]{2}}$

ب) $\frac{\sqrt{x+\sqrt{x}}}{\sqrt{1+x}} = \frac{\sqrt{x+\sqrt{x}}}{\sqrt{x(\sqrt{x}+1)}} = \frac{1}{\sqrt{x}}$

$\rightarrow \frac{1}{\sqrt{x}} \times \frac{-\frac{1}{2}}{\sqrt{x}} = \frac{-\frac{1}{2}}{x} = -\frac{1}{2x}$

ج) $\frac{\sqrt{x-\sqrt{x}} - \sqrt{x+\sqrt{x}}}{\sqrt{x}} = \frac{\sqrt{(1-\sqrt{x})^2} - \sqrt{(1+\sqrt{x})^2}}{\sqrt{x}} = \frac{1-\sqrt{x} - (1+\sqrt{x})}{\sqrt{x}} = \frac{-2\sqrt{x}}{\sqrt{x}} = -2$

ا) $\frac{\sqrt{1} + \sqrt{25}}{5 - \sqrt{9}} = \frac{1}{\sqrt{5} - 1}$
 $T = \frac{\sqrt{1} + \sqrt{25} \times (5 + \sqrt{9})}{5 - \sqrt{9} \times (5 + \sqrt{9})} = \frac{5\sqrt{1} + 25\sqrt{25} + \sqrt{9} + \sqrt{125}}{25 - 9} = \frac{5 + 25 + 3 + 5\sqrt{5}}{16} = \frac{33 + 5\sqrt{5}}{16}$
 $S = \frac{1}{\sqrt{5} - 1} \times \frac{\sqrt{5} + 1}{\sqrt{5} + 1} = \frac{\sqrt{5} + 1}{4} \rightarrow T - S = \sqrt{5} - 1$

ب) $\frac{\sqrt{25} - 1}{5 + \sqrt{9}} = \frac{1}{5 - \sqrt{9}}$
 $M = \frac{5\sqrt{25} - 1 \times (5 - \sqrt{9})}{5 + \sqrt{9} \times (5 - \sqrt{9})} = \frac{25\sqrt{25} - 5 + \sqrt{9}}{25 - 9} = \frac{25 + 3 - 5}{16} = \frac{23}{16}$
 $N = \frac{1}{5 - \sqrt{9}} \times \frac{5 + \sqrt{9}}{5 + \sqrt{9}} = \frac{5 + \sqrt{9}}{16} \rightarrow M - N = \frac{23 - 5 - \sqrt{9}}{16} = \frac{18 - 3}{16} = \frac{15}{16}$

[illegible]

$$\frac{\mu^2 (1 + \mu' + \mu'' + \mu''' + \mu^{(4)} + \mu^{(5)} + \mu^{(6)})}{\mu^{2-1} (1 + \mu' + \mu'' + \mu''' + \mu^{(4)} + \mu^{(5)} + \mu^{(6)})} = \Delta \mu \rightarrow \frac{\mu^2}{\mu^{2-1}} \times \mu^{(4)} = \mu \times \Delta \mu \rightarrow \frac{\mu^2}{\mu^{2-1}} = 9$$

$\rightarrow \boxed{\mu = 9}$ (Positive)

$$(a-b)^{\frac{1}{2}} \times (a+b)^{\frac{1}{2}} = (a^2 - b^2)^{\frac{1}{2}}$$

$$(\sqrt{\sqrt{9}+2} - \sqrt{\sqrt{9}-2})^{\frac{1}{2}} = (\sqrt{3}+2 + \sqrt{3}-2 - 2\sqrt{3})^{\frac{1}{2}} = \sqrt{6+2-4\sqrt{3}} = \sqrt{(2-\sqrt{3})^2} = 2-\sqrt{3}$$

~~2~~ $\sqrt{2-\sqrt{3}}$

$$19(2-\sqrt{3}) - 219 = t$$

$$(a + \frac{1}{a})^2 - 2^2 = (a^2 + \frac{1}{a^2} + 2 - 2)^2 = a^2 + \frac{1}{a^2} + 2$$

$$= 2 - 2\sqrt{3} + \frac{1}{2-\sqrt{3}} + 2 = 4 - 2\sqrt{3} + \frac{2+\sqrt{3}}{4-3} = 19$$

$$t = 2$$

$$1100$$

$$A = \sqrt[3]{\frac{1}{27} \times \frac{1}{27}} = \sqrt[3]{\frac{1}{27^2}} = \sqrt[3]{\frac{1}{27} \times \frac{1}{27}} = \sqrt[3]{\frac{1}{27}} \times \sqrt[3]{\frac{1}{27}} = \frac{1}{3} \times \frac{1}{3} = \frac{1}{9}$$

$$(2A)^{\frac{1}{2}} = 2^{\frac{1}{2}} A^{\frac{1}{2}} = (2^{\frac{1}{2}})^{\frac{1}{2}} = 2^{\frac{1}{4}} = \frac{1}{2}$$

$$\frac{1}{\sqrt{a}} = 2\sqrt{a} \cdot \frac{10}{a} \Rightarrow 1 = 2\sqrt{a} \cdot \frac{10}{a} \Rightarrow 1 = 20\sqrt{a} \cdot \frac{1}{a} \Rightarrow \sqrt{a} = \frac{1}{20} \Rightarrow a = \frac{1}{400}$$

$$\frac{(\frac{1}{a} - 3)}{1 + \sqrt{3}} = \frac{3\sqrt{3} - 3}{1 + \sqrt{3}} \times \frac{1 - \sqrt{3}}{1 - \sqrt{3}} = \frac{3\sqrt{3} - 9 - 3 + 3\sqrt{3}}{1 - 3} = \frac{6\sqrt{3} - 12}{-2} = -3\sqrt{3} + 6$$

$$\sqrt{M+9} - \sqrt{M-5} = 2$$

$$\sqrt{M+9} + \sqrt{M-5} = 2$$

$$M+N - (M-N) = 2N = \sqrt{M-5}$$

$$M - N = 2$$