

نام و نام خانوادگی: پاسخنامه تشریحی تکلیف شماره ۲۱ کلاس: دهم دبیرستان B

$$\frac{(11! \cdot 3! \cdot 5! + \dots + 25!)}{25!} \left(\frac{1! \cdot 4! \cdot 6! \cdot 8! \cdot 10! \cdot 12! \cdot 14! \cdot 16! \cdot 18! \cdot 20! \cdot 22! \cdot 24!}{25!} \right)$$

از هر جای بهر مکان ۵ و ۵

مکان به سمت (۵) می‌رسد $\rightarrow$

الف) $\sqrt[4]{\frac{1}{x \cdot \sqrt{x}}} \times \sqrt{x+1}$ ب) $\frac{(\sqrt{x+1})(\sqrt{x-1})}{(\sqrt{x+1})(\sqrt{x-1})} \cdot \frac{2\sqrt{x}-2\sqrt{x}+5\sqrt{x}-5\sqrt{x}}{1-1}$

$\sqrt[4]{\frac{x \cdot \sqrt{x}}{(x \cdot \sqrt{x})(x \cdot \sqrt{x})}} \times \sqrt{x+1}$ $\frac{(\sqrt{x+1})(\sqrt{x-1})}{(\sqrt{x+1})(\sqrt{x-1})} \cdot \frac{(5\sqrt{x}-2\sqrt{x})}{2} (\sqrt{x}-\sqrt{x})$

$\sqrt[4]{\frac{x \cdot \sqrt{x}}{x^2}} \times \frac{(x \cdot \sqrt{x})^2}{1+2\sqrt{x}} = \sqrt[4]{\frac{(x \cdot \sqrt{x}) \times 2 \times (x \cdot \sqrt{x})}{9}} = \sqrt[4]{\frac{2 \cdot (1 \cdot \frac{1}{9})}{9}} = \sqrt[4]{\frac{2}{81}}$

الف) $\frac{(2\sqrt{x}+3\sqrt{x})(5+2\sqrt{x})}{(2\sqrt{x}+3\sqrt{x})(5+2\sqrt{x})} = \frac{(2\sqrt{x}+3\sqrt{x})(5+2\sqrt{x})}{19} = \frac{19(\sqrt{x}+2\sqrt{x})}{19} = \frac{\sqrt{x}+2\sqrt{x}}{1}$

$\frac{2 \times (\sqrt{x}+1)^{20-6}}{2 \times (\sqrt{x}+1)} = \frac{x(\sqrt{x}+1)}{3-2x} = \frac{\sqrt{x}+1}{B} \rightarrow A \cdot B = \sqrt{x}+1 = \sqrt{x}+1 = \sqrt{x}+1$

ب) $\frac{(\sqrt{x+1})(\sqrt{x-1})}{12-3} = \frac{12\sqrt{x}+9\sqrt{x}+3}{13} = \frac{\sqrt{x}-1}{13} \left\{ \frac{1}{B} \cdot \frac{(2\sqrt{x}+3\sqrt{x})}{x-3} \right\}$

$A+B = 2+3\sqrt{x}+1 = 3+3\sqrt{x}$

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

ب) $2^{\frac{1}{2}} \times \frac{2}{\sqrt{x}} \times \frac{1}{x} \times \frac{1}{x} \times 2^{\frac{1}{2}} = 2 \times 2 \times 2 \times 2 = 16$

$\frac{2^x (1+3+9+27+81+243)}{2^x (\frac{1}{2}+\frac{1}{4}+\frac{1}{8}+\frac{1}{16}+\frac{1}{32}+\frac{1}{64})} = 2^x$

$\frac{2^x (363)}{2^x (\frac{63}{64})} = 2^x \rightarrow \frac{2^x}{2^x} = \frac{2^x \times 64}{63} = \frac{64}{63} \times 2^x$

$\left(\frac{2}{3}\right)^x = \left(\frac{2}{3}\right)^2 \rightarrow x=2$

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

$$(a^r b^r + r a^r b^r (a^r b^r)^\frac{1}{r})^\frac{1}{r} = t(r, \sqrt{r})$$

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

$$(r\sqrt{r} - r\sqrt{r})^\frac{1}{r} = t(r, \sqrt{r}) \rightarrow r\sqrt{r} - r\sqrt{r} = t(r, \sqrt{r}) \rightarrow r\sqrt{r} - r\sqrt{r} = t(r, \sqrt{r})$$

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

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

$$(r - \sqrt{r} + \frac{1}{\sqrt[r]{r - \sqrt{r}}})^\frac{1}{r} = t \rightarrow \left(\frac{1 - r\sqrt{r}}{r - \sqrt{r}} \right)^\frac{1}{r} = t \rightarrow \left(\frac{1 - r\sqrt{r}}{r - \sqrt{r}} \right)^\frac{1}{r} = t$$

$$A = r^\frac{1}{r} \times r^\frac{1}{r} \times r^\frac{1}{r} \times r^\frac{1}{r} = \frac{r + r + r + r}{10} = r^\frac{1}{r} \times r^\frac{1}{r} \times r^\frac{1}{r} \times r^\frac{1}{r}$$

$$(rA)^\frac{1}{r} = (r)^\frac{1}{r} = (r^\frac{1}{r})^\frac{1}{r} = r^{-1} = \frac{1}{r} + \frac{2}{10} = \frac{1}{r} + \frac{2}{10}$$

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

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

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

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

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

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