21/10/2019

398 $\left[\frac{1}{6}-(0,2\overline{4}-0,\overline{4})\right]\cdot\left(0,\overline{42}+\frac{1}{11}\right)+(-0,32):\left(+\frac{0,4}{0,\overline{1}}\right)=$

$=\left[\frac{1}{6}-\left(\frac{24-2}{90}-\frac{4}{9}\right)\right]\cdot\left(\frac{42}{99}+\frac{1}{11}\right)+\left(-\frac{\cancel{32}^{8}}{\cancel{100}_{25}}\right):\left(\frac{\frac{4}{10}}{\frac{1}{9}}\right)=$

$=\left[\frac{1}{6}-\left(\frac{22}{90}-\frac{4}{9}\right)\right]\cdot\left(\frac{42+9}{99}\right)+\left(-\frac{8}{25}\right):\left(\frac{\cancel{4}^{2}}{\cancel{10}_{5}}\cdot 9\right)=$

$=\left[\frac{1}{6}-\frac{22-40}{90}\right]\cdot\frac{\cancel{51}^{17}}{\cancel{99}_{33}}+\left(-\frac{8}{25}\right):\frac{18}{5}=$

$=\left[\frac{1}{6}-\frac{\cancel{-18}^{\cancel{2}^{1}}}{\cancel{90}_{\cancel{10}_{5}}}\right]\cdot\frac{17}{33}-\frac{\cancel{8}^{4}}{\cancel{25}_{5}}\cdot\frac{\cancel{5}^{1}}{\cancel{18}_{9}}=$

$=\left[\frac{1}{6}+\frac{1}{5}\right]\cdot\frac{17}{33}-\frac{4}{45}=$

$=\frac{5+6}{30}\cdot\frac{17}{33}-\frac{4}{45}=$

$=\frac{\cancel{11}^{1}}{30}\cdot\frac{17}{\cancel{33}_{3}}-\frac{4}{45}=\frac{17}{90}-\frac{4}{45}=\frac{17-8}{90}=\frac{\cancel{9}^{1}}{\cancel{90}_{10}}=\boxed{\frac{1}{10}}$

399 $\left[\left(-\frac{5}{4}\right)\left(-1-0{,}\overline{6}+\frac{1}{5}\right)\right]-\left(\frac{3}{2}+1{,}75-\frac{1}{2}-\frac{5}{4}+1\right)^2+5 =$

$$=\left[\left(-\frac{5}{4}\right)\left(-1-\frac{2}{3}\frac{6}{8}+\frac{1}{5}\right)\right]-\left(\frac{3}{2}+\frac{7}{4}\frac{175}{100}-\frac{1}{2}-\frac{5}{4}+1\right)^2+5=$$

$$=\left[\left(-\frac{5}{4}\right)\left(\frac{-15-10+3}{15}\right)\right]-\left(\frac{6+7-2-5+4}{4}\right)^2+5=$$

$$=\left[-\frac{1}{2}\frac{5}{4}\cdot\left(-\frac{11}{3}\frac{22}{15}\right)\right]-\left(\frac{5}{2}\frac{10}{4}\right)^2+5=$$

$$=\frac{11}{6}-\frac{25}{4}+5=\frac{22-75+60}{12}=\boxed{\frac{7}{12}}$$

417 $\left(-\frac{1}{2}\right)^{-3}$; $\left(+\frac{1}{2}\right)^{-1}$; $\left(-\frac{3}{2}\right)^{-2}$ $\left[-8; 2; \frac{4}{9}\right]$

$$\left(-\frac{1}{2}\right)^{-3} = (-2)^3 = \boxed{-8}$$

$$\left(\frac{1}{2}\right)^{-1} = 2^1 = \boxed{2}$$

$$\left(-\frac{3}{2}\right)^{-2} = \left(-\frac{2}{3}\right)^2 = +\frac{2^2}{3^2} = \boxed{\frac{4}{9}}$$

434 $\left[\left(-\frac{1}{3}\right)^{-2}\right]^{-3} = \left(-\frac{1}{3}\right)^{6} = \boxed{+\frac{1}{3^6}}$

421 $\left(-\frac{1}{2}-\frac{3}{2}\right)^{-3}$; $\left(1-\frac{3}{2}\right)^{-2}$; $\left(\frac{1}{1-\frac{3}{2}}\right)^{-1}$

$$\left(-\frac{1}{2}-\frac{3}{2}\right)^{-3} = \left(\frac{-1-3}{2}\right)^{-3} = \left(-\frac{4}{2}\right)^{-3} = (-2)^{-3} =$$

$$= \left(-\frac{1}{2}\right)^3 = -\frac{1}{2^3} = \boxed{-\frac{1}{8}}$$

$$\left(1-\frac{3}{2}\right)^{-2} = \left(\frac{2-3}{2}\right)^{-2} = \left(-\frac{1}{2}\right)^{-2} = (-2)^2 = \boxed{4}$$

$$\left(\frac{1}{1-\frac{3}{2}}\right)^{-1} = \left(\frac{1}{\frac{2-3}{2}}\right)^{-1} = \left(\frac{1}{-\frac{1}{2}}\right)^{-1} =$$

$$= (-2)^{-1} = \left(-\frac{1}{2}\right)^1 = \boxed{-\frac{1}{2}}$$

451 $\left(\frac{16}{21}\right)^4 \cdot \left(-\frac{7}{8}\right)^4 : \left(\frac{3}{8}\right)^4$; $\left(-\frac{3}{20}\right)^{-5} \cdot \left(\frac{25}{9}\right)^{-5} : \left(-\frac{1}{16}\right)^{-5}$

$$\left(\frac{16}{21}\right)^4 \cdot \left(-\frac{7}{8}\right)^4 : \left(\frac{3}{8}\right)^4 =$$

$$= \left[\frac{16}{21} \cdot \left(-\frac{7}{8}\right) : \frac{3}{8}\right]^4 =$$

$$= \left[\frac{\cancel{16}^{\,3}}{\cancel{21}} \cdot \left(-\frac{\cancel{7}^{\,1}}{\cancel{8}}\right) \cdot \frac{\cancel{8}^{\,1}}{3}\right]^4 =$$

$$= \left(-\frac{16}{9}\right)^4 = \left(\frac{16}{9}\right)^4$$

UGUAGLIANZA VERA PERCHÉ 4 È PARI

$$\left(-\frac{3}{20}\right)^{-5} \cdot \left(\frac{25}{9}\right)^{-5} : \left(-\frac{1}{16}\right)^{-5} =$$

$$= \left[-\frac{\cancel{3}^{\,1}}{\cancel{20}^{\,4}} \cdot \frac{\cancel{25}^{\,5}}{\cancel{9}_{\,3}} \cdot \left(-\frac{\cancel{4}}{\cancel{16}}\right)\right]^{-5} =$$

$$= \left[\frac{20}{3}\right]^{-5} = \left[\frac{3}{20}\right]^{5}$$

461 $\left(-\frac{1}{20}\right)^{-4} : \left(\frac{1}{50}\right)^{3} : 10^{10} =$

$= (-20)^4 : \left(\frac{1}{50}\right)^3 : 10^{10} =$

$= 20^4 \cdot 50^3 \cdot \frac{1}{10^{10}} =$

$= (2^2 \cdot 5)^4 \cdot (5^2 \cdot 2)^3 \cdot \frac{1}{(5 \cdot 2)^{10}} =$

$= \frac{2^8 \cdot 5^4 \cdot 5^6 \cdot 2^3}{5^{10} \cdot 2^{10}} =$

$= \frac{2^{\cancel{11}^{1} \cdot \cancel{5^{10}}}}{\cancel{5^{10}} \cdot \cancel{2^{10}}} = 2^1 = \boxed{2}$

$(-28)^3 : \left(-\frac{1}{98}\right)^2 \cdot \left[\left(\frac{1}{14}\right)^{-2}\right]^{-4} =$

$= (-28)^3 : \left(-\frac{1}{98}\right)^2 \cdot \left(\frac{1}{14}\right)^8 =$

$= \left(-2^2 \cdot 7\right)^3 \cdot \left(-2 \cdot 7^2\right)^2 \cdot \left(\frac{1}{2 \cdot 7}\right)^8 =$

$= -\frac{2^6 \cdot 7^3 \cdot 2^2 \cdot 7^4}{2^8 \cdot 7^8} =$

$= -\frac{\cancel{2^8} \cdot \cancel{7^7}}{\cancel{2^8} \cdot 7^{\cancel{8}1}} = \boxed{-\frac{1}{7}}$

RICORDARE CHE

$-\frac{2}{7} = \frac{-2}{7} = \frac{2}{-7}$

OSSERVAZIONE

$-(5-7+3-4) =$

- $-(-3) = 3$
- oppure
- $-5+7-3+4 = 3$

all'interno di un'espressione

ATTENZIONE CHE COL 2° METODO È PIÙ FACILE SBAGLIARE !!!