

Raccolta di espressioni con frazioni e numeri decimali (\mathbb{Q}^+). Con soluzioni guidate.
Expressions with Rational Numbers & Periodic Decimal Expansions

Convenzione di scrittura $0,(\overline{3}) = 0,\overline{3}$

- | | | |
|-----|---|--|
| 1. | $3,6 \cdot 0,\overline{1} + 2,\overline{1} : 0,8\overline{3} - 0,9\overline{3}$ | $[2]$
soluzione |
| 2. | $0,75 \cdot [2 \cdot (1 - 0,\overline{3} - 0,5) + 3 \cdot (0,\overline{6} - 0,5 + 0,1\overline{6})]$ | $[1]$
soluzione |
| 3. | $0,\overline{1} + 0,\overline{6} \cdot 0,4\overline{6} \cdot 1,25$ | $[\frac{1}{2}]$
soluzione |
| 4. | $(0,4 + 0,\overline{7} - 0,15) \cdot 1,2 - 0,8\overline{3}$ | $[\frac{2}{5}]$
soluzione |
| 5. | $[(0,15 + 0,\overline{6}) : 0,4\overline{6} + 1,35 \cdot 0,\overline{5}] : [1 + 1,5]$ | $[1]$
soluzione |
| 6. | $[(2 - 0,4) \cdot 0,75 - (0,65 - 0,6) : 0,75] : (1,25 - 0,91\overline{6})$ | $[\frac{17}{5}]$
soluzione |
| 7. | $4 - \frac{47}{18} : (1,1 - 0,0\overline{2} - 0,\overline{5}) \cdot (1 + 0,\overline{2} - 0,\overline{4} + 0,0\overline{2})$ | $[0]$
soluzione |
| 8. | $(1 + 0,\overline{2} + 0,0\overline{2} - 0,\overline{4}) : (1,1 - 0,\overline{5} - 0,0\overline{2}) : \frac{18}{47}$ | $[4]$
soluzione |
| 9. | $(0,24 \cdot 2,\overline{3} + 1,8 \cdot 0,0\overline{5} + 0,45 \cdot 4,\overline{6}) : 4,\overline{6}$ | $[\frac{3}{5}]$
soluzione |
| 10. | $(2,4 - 0,6) : \left(0,\overline{6} \cdot 1,3\overline{5} - \frac{10}{27} \right) : (1 + 0,35)$ | $[\frac{5}{2}]$
soluzione |
| 11. | $0,75 + (0,4(6) + (0,6 - (0,3 \cdot 0,(6))^2 - 0,4^2) \div 0,5(3) - 0,9)$ | $[\frac{16}{15}]$
soluzione |
| 12. | $(2 - 0,\overline{3}) - \{2,\overline{3} - [1,\overline{3} - (1,5 - 0,\overline{3})] - 1 + 0,\overline{3}\}$ | $[\frac{1}{6}]$
soluzione |
| 13. | $\{0,8\overline{3} - [0,\overline{6} + (0,75 - 0,\overline{4}) - (1 - 2,\overline{3} \cdot 0,25)] + 0,\overline{6} : 0,\overline{8}\} \cdot 0,9\overline{72}$ | $[1]$
soluzione |

14. $[(1,\bar{6} \cdot 0,3 - 0,8\bar{3} \cdot 0,6) + 1] : 0,08\bar{3}$ $[12]$
[soluzione](#)
15. $(0,375 + 0,\bar{3}) \cdot 0,96 - 0,28$ $[\frac{2}{5}]$
[soluzione](#)
16. $[(3 + 0,\bar{6}) : (5 + 0,5)^2 + 0,\bar{21}] \cdot 0,\bar{27}$ $[\frac{1}{11}]$
[soluzione](#)
17. $\{[1 + (0,\bar{6} - 0,25) \cdot 1,2] : [(1,5 - 0,75) : 0,75]\} : 1,\bar{3}$ $[\frac{9}{8}]$
[soluzione](#)
18. $\{[1 + (0,\bar{6} - 0,25) \cdot 1,2] : [(1,5 - 0,75)^2 : 0,75]\} : 1,\bar{3} + (11,\bar{3} - 3,\bar{3})$ $[\frac{19}{2}]$
[soluzione](#)
19. $0,\bar{6} - [(9,\bar{3} \cdot 0,1\bar{6} - 0,3\bar{7} \cdot 2,5) \cdot 1,\bar{6}\bar{3}] \cdot (2,5\bar{6} - 1,9)$ $[0]$
[soluzione](#)
20. $[(4,\bar{6} + 1,\bar{8}) : 6,\bar{5} + (3,\bar{4} + 0,\bar{6})] : 5,\bar{1}$ $[1]$
[soluzione](#)
21. $(2 - 0,5) - \{3 \cdot (1,8\bar{3} - 1,75)\} : [1 - (2,5 - 0,75) : 4,2] \cdot 1,4$ $[\frac{9}{10}]$
[soluzione](#)
22. $(2 - 0,4 + 0,\bar{6}) \cdot (0,8\bar{3} + 1,25) : 1,7$ $[\frac{25}{9}]$
[soluzione](#)
23. $(1 + 0,5) + (0,(3) - 0,25) \cdot (1 + 0,5) - (0,75 - 0,(6)) : (2 - 0,(6))$ $[\frac{25}{16}]$
[soluzione](#)
24. $[(3,6(4) - 2,8(3)) : 1,6(2) + 0,25] : 1,8 - 0,(3)$ $[\frac{25}{16}]$
[soluzione](#)
25. $0,(027) \cdot [0,(4) : 0,1(7) - 0,(81)]$ $[\frac{1}{22}]$
[soluzione](#)
26. $(1,2(6) + 1,3) \cdot (0,(27) - \frac{1}{7})$ $[\frac{1}{3}]$
[soluzione](#)

27. $(1 + 0,5) + (0, (3) - 0,25) \cdot (1 + 0,5) - (0,75 - 0, (6)) : (2 - 0, (6))$ $\left[\frac{25}{16} \right]$
[soluzione](#)
28. $2 : 0, \bar{6} - (0,5 - 0,125 : 0,5)^2$ $\left[\frac{47}{16} \right]$
[soluzione](#)
29. $(0,8 : 1,4) \cdot (1 - 0,5)^3 + 0,5 : [(1 - 0, (3))^2 : 0, (6)^2 - (1 - 0, (6))^2]$ $\left[\frac{32}{7} \right]$
[soluzione](#)
30. $(0,5 + (0,5 + (0,5 + 0, (3)) \cdot 0,8)) \cdot 0, (4) - 0,5$ $\left[\frac{13}{54} \right]$
[soluzione](#)
31. $1 - [(0,6 + 0, (6 : \div 1, (3)) \cdot 3, (3) - 2] : (1 + 0, (6))$ [0]
[soluzione](#)
32. $[1,0(6) \cdot 5,625 - (0,375 + 0,5 - 0,75) \cdot 1, (3)] \cdot 0,6 - (1 - 0,5)$ [1]
[soluzione](#)
33. $(2,3 - 1, (6) - 0, (4)) : (1 - 0,4(3))$ $\left[\frac{1}{3} \right]$
[soluzione](#)
34. $(1, (2) + 0,0(2) - 0, (4)) : (1 - 0,2)$ [1]
[soluzione](#)
35. $(0,5 + (0,5 + (0,5 + 0, \bar{3}) \cdot 0,8)) \cdot 0, \bar{4} - 0,5$ $\left[\frac{13}{54} \right]$
[soluzione](#)

Soluzioni

$$3,6 \cdot 0,(1) + 2,(1) : 0,8(3) - 0,9(3) =$$

$$3,6 \cdot 0,\bar{1} + 2,\bar{1} : 0,8\bar{3} - 0,9\bar{3} =$$

$$= \frac{36}{10} \cdot \frac{1}{9} + \frac{21-2}{9} : \frac{83-8}{90} - \frac{93-9}{90} =$$

$$= \frac{4}{10} + \frac{19}{9} \cdot \frac{90}{75} - \frac{84}{90} =$$

$$= \frac{2}{5} + \frac{19}{9} \cdot \frac{6}{5} - \frac{42}{45} =$$

$$= \frac{2}{5} + \frac{19}{3} \cdot \frac{2}{5} - \frac{14}{15} =$$

$$= \frac{2}{5} + \frac{38}{15} =$$

$$= \frac{6+38-14}{15} = \frac{30}{15} = 2$$

3,6 è un numero decimale limitato con una sola cifra decimale

$$3,6 = \frac{36}{10} = \frac{18}{5}$$

0, $\bar{1}$ e ... sono numeri decimali periodici semplice con una cifra di periodo

$$0, \bar{1} = \frac{1-0}{9} = \frac{1}{9}$$

$$2, \bar{1} = \frac{21-2}{9} = \frac{19}{9}$$

0,8 $\bar{3}$ e ... sono numeri decimali periodici misti con una cifra di antiperiodo e una di periodo

$$0,8\bar{3} = \frac{83-8}{90} = \frac{75:15}{90:15} = \frac{5}{6}$$

$$0,9\bar{3} = \frac{93-9}{90} = \frac{84:2}{90:2} = \frac{42}{45}$$

$$\begin{aligned}
 & 0,75 \cdot [2 \cdot (1 - 0,\bar{3} - 0,5) + 3 \cdot (0,\bar{6} - 0,5 + 0,1\bar{6})] = \\
 & 0,75 \cdot [2 \cdot (1 - 0,(3) - 0,5) + 3 \cdot (0,(6) - 0,5 + 0,1(6))] = \\
 & = \frac{75}{100} \cdot \left[2 \cdot \left(1 - \frac{3}{9} - \frac{5}{10} \right) + 3 \cdot \left(\frac{6}{9} - \frac{5}{10} + \frac{16-1}{90} \right) \right] = \\
 & = \frac{3}{4} \cdot \left[2 \cdot \left(1 - \frac{1}{3} - \frac{1}{2} \right) + 3 \cdot \left(\frac{2}{3} - \frac{1}{2} + \frac{15^1}{90_6} \right) \right] = \\
 & = \frac{3}{4} \cdot \left[2 \cdot \left(\frac{6-2-3}{6} \right) + 3 \cdot \left(\frac{4-3+1}{6} \right) \right] = \\
 & = \frac{3}{4} \cdot \left[2 \cdot \frac{1}{6} + 3 \cdot \frac{2}{6} \right] = \\
 & = \frac{3}{4} \cdot \left[\frac{1}{3} + 1 \right] = \frac{3}{4} \cdot \frac{4}{3} = 1
 \end{aligned}$$

0,75 è un numero decimale limitato con due cifre decimali

$$0,75 = \frac{75}{100} = \frac{75:25}{100:25} = \frac{3}{4}$$

0,5 è un numero decimale limitato con una cifra decimale

$$0,5 = \frac{5}{10} = \frac{1}{2}$$

$0,\bar{3}$ è un numero periodico semplice e con una sola cifra di periodo, il 3

$$0,\bar{3} = \frac{3-0}{9} = \frac{3}{9} = \frac{1}{3}$$

$0,\bar{6}$ è un numero periodico semplice e con una sola cifra di periodo, il 6

$$0,\bar{6} = \frac{6-0}{9} = \frac{6}{9} = \frac{2}{3}$$

$0,1\bar{6}$ è un numero periodico misto, con una cifra di antiperiodo, l'1, e con una sola cifra di periodo, il 6

$$0,1\bar{6} = \frac{16-1}{90} = \frac{15}{90} = \frac{15:5}{90:5} = \frac{3}{18} = \frac{1}{6}$$

$$0,\overline{1} + 0,\overline{6} \cdot 0,4\overline{6} \cdot 1,25 =$$

$$0,(1) + 0,(6) \cdot 0,4(6) \cdot 1,25 =$$

$$= \frac{1}{9} + \frac{2\overline{6}}{3\overline{9}} \cdot \frac{46-4}{90} \cdot \frac{125^5}{100_4} =$$

$$= \frac{1}{9} + \frac{2}{1\overline{3}} \cdot \frac{42^7}{90} \cdot \frac{5}{4_2} =$$

$$= \frac{1}{9} + \frac{1\overline{2}}{1} \cdot \frac{7}{90_{45_9}} \cdot \frac{5^1}{2} =$$

$$= \frac{1}{9} + \frac{7}{18} =$$

$$= \frac{2+7}{18} = \frac{9}{18} = \frac{1}{2}$$

1,25 è un numero decimale limitato con due cifre decimali

$$1,25 = \frac{125}{100} = \frac{125:25}{100:25} = \frac{5}{4}$$

$0,\overline{1}$ è un numero periodico semplice e con una sola cifra di periodo

$$0,\overline{1} = \frac{1-0}{9} = \frac{1}{9}$$

$0,\overline{6}$ è un numero periodico semplice e con una sola cifra di periodo

$$0,\overline{6} = \frac{6-0}{9} = \frac{6}{9} = \frac{2}{3}$$

$0,4\overline{6}$ è un numero periodico misto, con una cifra di antiperiodo, il 4, e con una sola cifra di periodo, il 6

$$0,4\overline{6} = \frac{46-4}{90} = \frac{42}{90} = \frac{21}{45} = \frac{7}{15}$$

$$(0,4 + 0,(\overline{7}) - 0,15) \cdot 1,2 - 0,8(\overline{3})$$

$$(0,4 + 0,\overline{7} - 0,15) \cdot 1,2 - 0,8\overline{3} =$$

$$= \left(\frac{4}{10} + \frac{7}{9} - \frac{15^3}{100_{20}} \right) \cdot \frac{12}{100} - \frac{83 - 8}{90} =$$

$$= \left(\frac{4}{10} + \frac{7}{9} - \frac{3}{20} \right) \cdot \frac{12}{100} - \frac{75^5}{90_6} =$$

$$= \frac{72 + 140 - 27}{180} \cdot \frac{6}{5} - \frac{5}{6} =$$

$$= \frac{185}{180} \cdot \frac{6}{5} - \frac{5}{6} =$$

$$= \frac{37}{30} \cdot \frac{1}{1} - \frac{5}{6} =$$

$$= \frac{37}{30} - \frac{5}{6} =$$

$$= \frac{37 - 25}{30} =$$

$$= \frac{12}{30} = \frac{2}{5}$$

$$[(0,15 + 0,(6)) : 0,4(6) + 1,35 \cdot 0,(5)] : [1 + 1,5] =$$

$$[(0,15 + 0,\bar{6}) : 0,4\bar{6} + 1,35 \cdot 0,\bar{5}] : [1 + 1,5] =$$

$$= \left[\left(\frac{15}{100} + \frac{6}{9} \right) : \frac{46-4}{90} + \frac{135}{100} \cdot \frac{5}{9} \right] : \left[1 + \frac{15}{10} \right] =$$

$$= \left[\left(\frac{3}{20} + \frac{2}{3} \right) : \frac{42}{90} + \frac{27}{20} \cdot \frac{5}{9} \right] : \left[1 + \frac{3}{2} \right] =$$

$$= \left[\left(\frac{9+40}{60} \right) \cdot \frac{90}{42} + \frac{3}{4} \right] : \left[\frac{2+3}{2} \right] =$$

$$= \left[\frac{49}{6} \cdot \frac{9}{42} + \frac{3}{4} \right] : \left[\frac{5}{2} \right] =$$

$$= \left[\frac{7}{2} \cdot \frac{3}{6} + \frac{3}{4} \right] : \left[\frac{5}{2} \right] =$$

$$= \left[\frac{7}{4} + \frac{3}{4} \right] : \left[\frac{5}{2} \right] =$$

$$= \frac{10}{4} \cdot \frac{2}{5} = 1$$

$$\begin{aligned}
 & [(2-0,4) \cdot 0,75 - (0,65-0,6) : 0,75] : (1,25-0,91\overline{6}) = \\
 & [(2-0,4) \cdot 0,75 - (0,65-0,6) : 0,75] : (1,25-0,91\overline{6}) = \\
 & = \left[\left(2 - \frac{4}{10} \right) \cdot \frac{75}{100} - \left(\frac{65}{100} - \frac{6}{10} \right) : \frac{75}{100} \right] : \left(\frac{125}{100} - \frac{916-91}{900} \right) = \\
 & = \left[\left(2 - \frac{2}{5} \right) \cdot \frac{3}{4} - \left(\frac{13}{20} - \frac{3}{5} \right) : \frac{3}{4} \right] : \left(\frac{5}{4} - \frac{825}{900} \right) = \frac{825}{900} = \frac{165}{180} = \frac{55}{60} = \frac{11}{12} \\
 & = \left[\left(\frac{10-2}{5} \right) \cdot \frac{3}{4} - \left(\frac{13-12}{20} \right) \cdot \frac{4}{3} \right] : \left(\frac{5}{4} - \frac{11}{12} \right) = \\
 & = \left[\frac{8}{5} \cdot \frac{3}{4} - \frac{1}{20} \cdot \frac{4}{3} \right] : \left(\frac{15-11}{12} \right) = \\
 & = \left[\frac{6}{5} - \frac{1}{15} \right] : \frac{4}{12} = \\
 & = \left[\frac{18-1}{15} \right] \cdot \frac{3}{1} = \\
 & = \frac{17}{15} \cdot \frac{3}{1} = \frac{17}{5}
 \end{aligned}$$

0,4 è un numero decimale limitato con una sola cifra decimale

$$0,4 = \frac{4}{10} = \frac{2}{5}$$

0,75 è un numero decimale limitato con due cifre decimali

$$0,75 = \frac{75}{100} = \frac{75:25}{100:25} = \frac{3}{4}$$

0,65 è un numero decimale limitato con due cifre decimali

$$0,65 = \frac{65}{100} = \frac{65:5}{100:5} = \frac{13}{20}$$

...

0,91 $\overline{6}$ è un numero periodico misto, con due cifre di antiperiodo, 9 e 1, e con una sola cifra di periodo, il 6

$$0,91\overline{6} = \frac{916-91}{900} = \frac{825}{900} = \frac{825:25}{900:25} = \frac{33}{36} = \frac{11}{12}$$

$$\begin{aligned}
 & 4 - \frac{47}{18} : (1,1 - 0,0(2) - 0,(5)) \cdot (1 + 0,(2) - 0,(4) + 0,0(2)) = \\
 & 4 - \frac{47}{18} : (1,1 - 0,0\bar{2} - 0,\bar{5}) \cdot (1 + 0,\bar{2} - 0,\bar{4} + 0,0\bar{2}) = \\
 & = 4 - \frac{47}{18} : \left(\frac{11}{10} - \frac{2}{90} - \frac{5}{9} \right) \cdot \left(1 + \frac{2}{9} - \frac{4}{9} + \frac{2}{90} \right) = \\
 & = 4 - \frac{47}{18} : \left(\frac{99 - 2 - 50}{90} \right) \cdot \left(\frac{90 + 20 - 40 + 2}{90} \right) = \\
 & = 4 - \frac{47^1}{18} \cdot \left(\frac{90^1}{1 \cdot 47} \right) \cdot \left(\frac{72}{1 \cdot 90} \right) = \\
 & = 4 - \frac{{}^4_{36}72}{{}_1918} = \\
 & = 4 - 4 = 0
 \end{aligned}$$

$$\begin{aligned}
 & (1 + 0,(2) + 0,0(2) - 0,(4)) : (1,1 - 0,(5) - 0,0(2)) : \frac{18}{47} = \\
 & (1 + 0,\bar{2} + 0,0\bar{2} - 0,\bar{4}) : (1,1 - 0,\bar{5} - 0,0\bar{2}) : \frac{18}{47} = \\
 & = \left(1 + \frac{2}{9} + \frac{2}{90} - \frac{4}{9} \right) : \left(\frac{11}{10} - \frac{5}{9} - \frac{2}{90} \right) : \frac{18}{47} = \\
 & = \left(\frac{90 + 20 + 2 - 40}{90} \right) : \left(\frac{99 - 50 - 2}{90} \right) : \frac{18}{47} = \\
 & = \left(\frac{72}{90} \right) \cdot \left(\frac{90^1}{1 \cdot 47} \right) \cdot \frac{47^1}{18} = \\
 & = \frac{{}_1^{36}72}{{}_1^9 18} = 4
 \end{aligned}$$

$$(0,24 \cdot 2,\bar{3} + 1,8 \cdot 0,0\bar{5} + 0,45 \cdot 4,\bar{6}) : 4,\bar{6}$$

$$\begin{aligned} & \left(\frac{6}{25} \cdot 2,\bar{3} + \frac{9}{5} \cdot 0,0\bar{5} + \frac{9}{20} \cdot 4,\bar{6} \right) : \frac{23}{5} = \\ & = \left(\frac{6}{25} \cdot \frac{23-2}{9} + \frac{9}{5} \cdot \frac{5}{90} + \frac{9}{20} \cdot \frac{46-4}{9} \right) : \frac{23}{5} = \\ & = \left(\frac{{}^2_6 \cdot {}^{21}_7}{{}_{25} 9_{31}} + \frac{{}^1_9 \cdot {}^5_1}{{}_1 5 \cdot {}^{90}_{10}} + \frac{{}_9 \cdot {}^{42}_{21}}{10 \cdot {}^{20}_2 \cdot {}^9_9} \right) \cdot \frac{5}{23} = \\ & = \left(\frac{14}{25} + \frac{1}{10} + \frac{21}{10} \right) \cdot \frac{5}{23} = \\ & = \left(\frac{28+5+105}{50} \right) \cdot \frac{5}{23} = \\ & = \frac{{}^{69}_{5,10} 138 \cdot {}^5_1}{{}_{5,10} 50 \cdot 23} = \frac{{}^3_{5,10} 69}{{}_{5,10} 115} = \frac{3}{5} \end{aligned}$$

$$\begin{aligned}
 & (2,4 - 0,6) : \left(0,\overline{6} \cdot 1,3\overline{5} - \frac{10}{27} \right) : (1 + 0,35) = \\
 & = \left(\frac{24}{10} - \frac{6}{10} \right) : \left(\frac{6}{9} \cdot \frac{135 - 13}{90} - \frac{10}{27} \right) : \left(1 + \frac{35}{100} \right) = \\
 & = \left(\frac{18}{10} \right) : \left(\frac{{}^2_3\overline{6}}{9} \cdot \frac{122}{90} - \frac{10}{27} \right) : \left(1 + \frac{35}{100} \right) = \\
 & = \left(\frac{18}{10} \right) : \left(\frac{244 - 100}{270} \right) : \left(\frac{100 + 35}{100} \right) = \\
 & = \left(\frac{{}^1_1\overline{2}18}{{}_1\overline{1}0} \right) \cdot \left(\frac{270^{30^2}}{144_{16_8}} \right) \cdot \left(\frac{100}{135_{15_1}} \right) = \frac{20}{8} = \frac{5}{2}
 \end{aligned}$$

Un grazie a Samuele A. per la segnalazione 10.12.2007

$$\begin{aligned}
 & 0,75 + (0,4(6) + (0,6 - (0,3 \cdot 0, (6))^2 - 0,4^2) : 0,5(3) - 0,9) = \\
 & = \frac{75}{100} + \left(\frac{46-4}{90} + \left(\frac{6}{10} - \left(\frac{3}{10} \cdot \frac{2}{3} \right)^2 - \left(\frac{4}{10} \right)^2 \right) \div \frac{53-5}{90} - \frac{9}{10} \right) = \\
 & = \frac{3}{4} + \left(\frac{42}{90} + \left(\frac{3}{5} - \left(\frac{1}{5} \right)^2 - \left(\frac{2}{5} \right)^2 \right) \div \frac{48}{90} - \frac{9}{10} \right) = \\
 & = \frac{3}{4} + \left(\frac{7}{15} + \left(\frac{3}{5} - \frac{1}{25} - \frac{4}{25} \right) \div \frac{8}{15} - \frac{9}{10} \right) = \\
 & = \frac{3}{4} + \left(\frac{7}{15} + \left(\frac{15-1-4}{25} \right) \cdot \frac{15}{8} - \frac{9}{10} \right) = \\
 & = \frac{3}{4} + \left(\frac{7}{15} + \left(\frac{{}^5 10}{{}_5 25} \right) \cdot \frac{15^3}{8_4} - \frac{9}{10} \right) = \\
 & = \frac{3}{4} + \left(\frac{7}{15} + \frac{3}{4} - \frac{9}{10} \right) = \\
 & = \frac{3}{4} + \left(\frac{140+225-270}{300} \right) = \\
 & = \frac{3}{4} + \frac{19}{60} = \\
 & = \frac{45+19}{60} = \\
 & = \frac{64}{60} = \frac{32}{30} = \frac{16}{15}
 \end{aligned}$$

$$\begin{aligned}
 & (2 - 0,\bar{3}) - \{2,\bar{3} - [1,\bar{3} - (1,5 - 0,\bar{3})] - 1 + 0,\bar{3}\} = \\
 & = \left(2 - \frac{3}{9}\right) - \left\{\frac{23-2}{9} - \left[\frac{13-2}{9} - \left(\frac{15}{10} - \frac{3}{9}\right)\right] - 1 + \frac{3}{9}\right\} = \\
 & = \left(2 - \frac{1}{3}\right) - \left\{\frac{7}{3} - \left[\frac{4}{3} - \left(\frac{3}{2} - \frac{1}{3}\right)\right] - 1 + \frac{1}{3}\right\} = \\
 & = \frac{6-1}{3} - \left\{\frac{7}{3} - \left[\frac{4}{3} - \left(\frac{9-2}{6}\right)\right] - 1 + \frac{1}{3}\right\} = \\
 & = \frac{5}{3} - \left\{\frac{7}{3} - \left[\frac{4}{3} - \frac{7}{6}\right] - 1 + \frac{1}{3}\right\} = \\
 & = \frac{5}{3} - \left\{\frac{7}{3} - \left[\frac{8-7}{6}\right] - 1 + \frac{1}{3}\right\} = \\
 & = \frac{5}{3} - \left\{\frac{7}{3} - \frac{1}{6} - 1 + \frac{1}{3}\right\} = \\
 & = \frac{5}{3} - \left\{\frac{14-1-6+2}{6}\right\} = \\
 & = \frac{5}{3} - \frac{9}{6} = \\
 & = \frac{10-9}{6} = \frac{1}{6}
 \end{aligned}$$

$$\begin{aligned}
 & \{0,8(3) - [0,(6) + (0,75 - 0,(4)) - (1 - 2,(3) \cdot 0,25)] + 0,(6) : 0,(8)\} \cdot 0,(972) = \\
 & \{0,8\bar{3} - [0,\bar{6} + (0,75 - 0,\bar{4}) - (1 - 2,\bar{3} \cdot 0,25)] + 0,\bar{6} : 0,\bar{8}\} \cdot 0,\bar{972} = \\
 & = \left\{ \frac{83-8}{90} - \left[\frac{6}{9} + \left(\frac{75}{100} - \frac{4}{9} \right) - \left(1 - \frac{23-2}{9} \cdot \frac{25}{100} \right) \right] + \frac{6}{9} : \frac{8}{9} \right\} \cdot \frac{972}{999} = \\
 & = \left\{ \frac{5}{6} - \left[\frac{2}{3} + \left(\frac{3}{4} - \frac{4}{9} \right) - \left(1 - \frac{7}{3} \cdot \frac{1}{4} \right) \right] + \frac{2}{3} : \frac{8}{9} \right\} \cdot \frac{36}{37} = \quad \left(\frac{972 : 27}{999 : 27} \right) \\
 & = \left\{ \frac{5}{6} - \left[\frac{2}{3} + \left(\frac{27-16}{36} \right) - \left(1 - \frac{7}{12} \right) \right] + \frac{2}{3} \cdot \frac{9}{8} \right\} \cdot \frac{36}{37} = \\
 & = \left\{ \frac{5}{6} - \left[\frac{2}{3} + \frac{11}{36} - \left(\frac{12-7}{12} \right) \right] + \frac{3}{4} \right\} \cdot \frac{36}{37} = \\
 & = \left\{ \frac{5}{6} - \left[\frac{2}{3} + \frac{11}{36} - \frac{5}{12} \right] + \frac{3}{4} \right\} \cdot \frac{36}{37} = \\
 & = \left\{ \frac{5}{6} - \left[\frac{24+11-15}{36} \right] + \frac{3}{4} \right\} \cdot \frac{36}{37} = \\
 & = \left\{ \frac{5}{6} - \frac{20}{36} + \frac{3}{4} \right\} \cdot \frac{36}{37} = \\
 & = \left\{ \frac{30-20+27}{36} \right\} \cdot \frac{36}{37} = \\
 & = \frac{37}{36} \cdot \frac{36}{37} = 1
 \end{aligned}$$

$$\begin{aligned}
 & [(1,(\overline{6}) \cdot 0,3 - 0,8(\overline{3}) \cdot 0,6) + 1] : 0,08(\overline{3}) = \\
 & [(1,\overline{6} \cdot 0,3 - 0,8\overline{3} \cdot 0,6) + 1] : 0,08\overline{3} = \\
 & = \left[\left(\frac{16-1}{9} \cdot \frac{3}{10} - \frac{83-8}{90} \cdot \frac{6}{10} \right) + 1 \right] : \frac{83-8}{900} = \\
 & = \left[\left(\frac{15}{9} \cdot \frac{3}{10} - \frac{75}{90} \cdot \frac{6}{10} \right) + 1 \right] : \frac{75}{900} = \\
 & = \left[\left(\frac{1\cancel{5}}{3} \cdot \frac{3}{10_2} - \frac{5}{\cancel{6}_2} \cdot \frac{\cancel{3}}{5} \right) + 1 \right] : \frac{1}{12} = \\
 & = \left[\left(\frac{1}{2} - \frac{1}{2} \right) + 1 \right] : \frac{1}{12} = \\
 & = 1 \cdot \frac{12}{1} = 12
 \end{aligned}$$

$$(0,375 + 0,(3)) \cdot 0,96 - 0,28 =$$

$$(0,375 + 0,\bar{3}) \cdot 0,96 - 0,28 =$$

$$= \left(\frac{375}{1000} + \frac{3}{9} \right) \cdot \frac{96}{100} - \frac{28}{100} =$$

$$= \left(\frac{3}{8} + \frac{1}{3} \right) \cdot \frac{96}{100} - \frac{28}{100} =$$

$$= \left(\frac{9+8}{24} \right) \cdot \frac{96}{100} - \frac{28}{100} =$$

$$= \left(\frac{17}{24} \right) \cdot \frac{96}{100} - \frac{28}{100} =$$

$$= \frac{68}{100} - \frac{28}{100} =$$

$$= \frac{68-28}{100} =$$

$$= \frac{40}{100} = \frac{2}{5}$$

$$\begin{aligned}
 & [(3 + 0,(6)) : (5 + 0,5)^2 + 0,(21)] \cdot 0,(27) = \\
 & [(3 + 0,\bar{6}) : (5 + 0,5)^2 + 0,\bar{21}] \cdot 0,\bar{27} = \\
 & = \left[\left(3 + \frac{6}{9} \right) : \left(5 + \frac{5}{10} \right)^2 + \frac{21}{99} \right] \cdot \frac{27}{99} = \\
 & = \left[\left(3 + \frac{2}{3} \right) : \left(5 + \frac{1}{2} \right)^2 + \frac{7}{33} \right] \cdot \frac{3}{11} = \\
 & = \left[\frac{11}{3} : \left(\frac{11}{2} \right)^2 + \frac{7}{33} \right] \cdot \frac{3}{11} = \\
 & = \left[\frac{11}{3} \cdot \frac{4}{11^2} + \frac{7}{33} \right] \cdot \frac{3}{11} = \\
 & = \left[\frac{4}{33} + \frac{7}{33} \right] \cdot \frac{3}{11} = \\
 & = \frac{11}{33} \cdot \frac{3}{11} = \frac{1}{11}
 \end{aligned}$$

$$\begin{aligned}
 & \left\{ \left[1 + (0,\overline{6} - 0,25) \cdot 1,2 \right] : \left[(1,5 - 0,75) : 0,75 \right] \right\} : 1,\overline{3} = \\
 & = \left\{ \left[1 + \left(\frac{6}{9} - \frac{25}{100} \right) \cdot \frac{12}{10} \right] : \left[\left(\frac{15}{10} - \frac{75}{100} \right) : \frac{75}{100} \right] \right\} : \frac{13-1}{9} = \\
 & = \left\{ \left[1 + \left(\frac{2}{3} - \frac{1}{4} \right) \cdot \frac{6}{5} \right] : \left[\left(\frac{3}{2} - \frac{3}{4} \right) : \frac{3}{4} \right] \right\} : \frac{12}{9} = \\
 & = \left\{ \left[1 + \left(\frac{8-3}{12} \right) \cdot \frac{6}{5} \right] : \left[\left(\frac{6-3}{4} \right) \cdot \frac{4}{3} \right] \right\} : \frac{4}{3} = \\
 & = \left\{ \left[1 + \left(\frac{5}{12} \right) \cdot \frac{6}{5} \right] : \left[\left(\frac{3}{4} \right) \cdot \frac{4}{3} \right] \right\} \cdot \frac{3}{4} = \\
 & = \left\{ \left[1 + \frac{1}{2} \right] : 1 \right\} \cdot \frac{3}{4} = \\
 & = \left\{ \frac{3}{2} \right\} \cdot \frac{3}{4} = \frac{9}{8}
 \end{aligned}$$

$$\begin{aligned}
 & \left\{ \left[1 + (0,6) - 0,25 \right] \cdot 1,2 \right\} : \left[(1,5 - 0,75)^2 : 0,75 \right] : 1,(3) + (11,(3) - 3,(3)) = \\
 & \left\{ \left[1 + (0,\bar{6} - 0,25) \cdot 1,2 \right] : \left[(1,5 - 0,75)^2 : 0,75 \right] \right\} : 1,\bar{3} + (11,\bar{3} - 3,\bar{3}) = \\
 & = \left\{ \left[1 + \left(\frac{6}{9} - \frac{25}{100} \right) \cdot \frac{12}{10} \right] : \left[\left(\frac{15}{10} - \frac{75}{100} \right)^2 : \frac{75}{100} \right] \right\} : \frac{13-1}{9} + \left(\frac{113-11}{9} - \frac{33-3}{9} \right) = \\
 & = \left\{ \left[1 + \left(\frac{2}{3} - \frac{1}{4} \right) \cdot \frac{6}{5} \right] : \left[\left(\frac{3}{2} - \frac{3}{4} \right)^2 : \frac{3}{4} \right] \right\} : \frac{12}{9} + \left(\frac{102}{9} - \frac{30}{9} \right) = \\
 & = \left\{ \left[1 + \left(\frac{8-3}{12} \right) \cdot \frac{6}{5} \right] : \left[\left(\frac{6-3}{4} \right)^2 \cdot \frac{4}{3} \right] \right\} : \frac{4}{3} + \left(\frac{34}{3} - \frac{10}{3} \right) = \\
 & = \left\{ \left[1 + \left(\frac{5}{12} \right) \cdot \frac{6}{5} \right] : \left[\left(\frac{3}{4} \right)^2 \cdot \frac{4}{3} \right] \right\} \cdot \frac{3}{4} + \frac{24}{3} = \\
 & = \left\{ \left[1 + \frac{1}{2} \right] : \left[\frac{9}{16} \cdot \frac{4}{3} \right] \right\} \cdot \frac{3}{4} + 8 = \\
 & = \left\{ \frac{3}{2} : \frac{3}{4} \right\} \cdot \frac{3}{4} + 8 = \\
 & = \left\{ \frac{3}{2} \cdot \frac{4}{3} \right\} \cdot \frac{3}{4} + 8 = \\
 & = 2 \cdot \frac{3}{4} + 8 = \\
 & = \frac{3}{2} + 8 = \\
 & = \frac{3+16}{2} = \\
 & = \frac{3+16}{2} = \frac{19}{2}
 \end{aligned}$$

$$\begin{aligned}
 & 0,(6) - [(9,(3) \cdot 0,1(6) - 0,3(7) \cdot 2,5) \cdot 1,(63)] \cdot (2,5(6) - 1,9) = \\
 & 0,\bar{6} - [(9,\bar{3} \cdot 0,1\bar{6} - 0,3\bar{7} \cdot 2,5) \cdot 1,\bar{6}\bar{3}] \cdot (2,5\bar{6} - 1,9) = \\
 & = \frac{6}{9} - \left[\left(\frac{93-9}{9} \cdot \frac{16-1}{90} - \frac{37-3}{90} \cdot \frac{25}{10} \right) \cdot \frac{163-1}{99} \right] \cdot \left(\frac{256-25}{90} - \frac{19}{10} \right) = \\
 & = \frac{2}{3} - \left[\left(\frac{84}{9} \cdot \frac{15}{90} - \frac{34}{90} \cdot \frac{5}{2} \right) \cdot \frac{162}{99} \right] \cdot \left(\frac{231}{90} - \frac{19}{10} \right) = \\
 & = \frac{2}{3} - \left[\left(\frac{28}{3} \cdot \frac{1}{6} - \frac{17}{45} \cdot \frac{5}{2} \right) \cdot \frac{18}{11} \right] \cdot \left(\frac{231-171}{90} \right) = \\
 & = \frac{2}{3} - \left[\left(\frac{14}{9} - \frac{17}{18} \right) \cdot \frac{18}{11} \right] \cdot \left(\frac{60}{90} \right) = \\
 & = \frac{2}{3} - \left[\left(\frac{28-17}{18} \right) \cdot \frac{18}{11} \right] \cdot \left(\frac{2}{3} \right) = \\
 & = \frac{2}{3} - \left[\frac{11}{18} \cdot \frac{18}{11} \right] \cdot \left(\frac{2}{3} \right) = \\
 & = \frac{2}{3} - \frac{2}{3} = 0
 \end{aligned}$$

$$\begin{aligned}
 & [(4,(6) + 1,(8)) : 6,(5) + (3,(4) + 0,(6))] : 5,(1) = \\
 & [(4,\bar{6} + 1,\bar{8}) : 6,\bar{5} + (3,\bar{4} + 0,\bar{6})] : 5,\bar{1} = \\
 & = \left[\left(\frac{46-4}{9} + \frac{18-1}{9} \right) : \frac{65-6}{9} + \left(\frac{34-3}{9} + \frac{6}{9} \right) \right] : \frac{51-5}{9} = \\
 & = \left[\left(\frac{42}{9} + \frac{17}{9} \right) : \frac{59}{9} + \left(\frac{31}{9} + \frac{6}{9} \right) \right] : \frac{46}{9} = \\
 & = \left[\frac{59}{9} \cdot \frac{9}{59} + \frac{37}{9} \right] \cdot \frac{9}{46} = \\
 & = \left[1 + \frac{37}{9} \right] \cdot \frac{9}{46} = \\
 & = \frac{46}{9} \cdot \frac{9}{46} = 1
 \end{aligned}$$

$$\begin{aligned}
 & (2 - 0,5) - \{ [3 \cdot (1,8(3) - 1,75)] : [1 - (2,5 - 0,75) : 4,2] \} \cdot 1,4 = \\
 & (2 - 0,5) - \{ [3 \cdot (1,8\bar{3} - 1,75)] : [1 - (2,5 - 0,75) : 4,2] \} \cdot 1,4 = \\
 & = \left(2 - \frac{5}{10} \right) - \left\{ \left[3 \cdot \left(\frac{183 - 18}{90} - \frac{175}{100} \right) \right] : \left[1 - \left(\frac{25}{10} - \frac{75}{100} \right) : \frac{42}{10} \right] \right\} \cdot \frac{14}{10} = \\
 & = \left(2 - \frac{1}{2} \right) - \left\{ \left[3 \cdot \left(\frac{165^{11}}{90_6} - \frac{7}{4} \right) \right] : \left[1 - \left(\frac{5}{2} - \frac{3}{4} \right) : \frac{21}{5} \right] \right\} \cdot \frac{7}{5} = \\
 & = \left(\frac{4-1}{2} \right) - \left\{ \left[3 \cdot \left(\frac{22-21}{12} \right) \right] : \left[1 - \left(\frac{10-3}{4} \right) \cdot \frac{5}{21} \right] \right\} \cdot \frac{7}{5} = \\
 & = \frac{3}{2} - \left\{ \left[3 \cdot \frac{1}{12} \right] : \left[1 - \frac{7}{4} \cdot \frac{5}{21} \right] \right\} \cdot \frac{7}{5} = \\
 & = \frac{3}{2} - \left\{ \frac{1}{4} : \left[1 - \frac{5}{12} \right] \right\} \cdot \frac{7}{5} = \\
 & = \frac{3}{2} - \left\{ \frac{1}{4} : \frac{7}{12} \right\} \cdot \frac{7}{5} = \\
 & = \frac{3}{2} - \left\{ \frac{1 \cdot 12}{4 \cdot 7} \right\} \cdot \frac{7}{5} = \\
 & = \frac{3}{2} - \frac{3}{7} \cdot \frac{7}{5} = \\
 & = \frac{3}{2} - \frac{3}{5} = \\
 & = \frac{15-6}{10} = \frac{9}{10}
 \end{aligned}$$

$$(2 - 0,4 + 0,(6)) \cdot (0,8(3) + 1,25) : 1,7 =$$

$$(2 - 0,4 + 0,\bar{6}) \cdot (0,8\bar{3} + 1,25) : 1,7 =$$

$$= \left(2 - \frac{4}{10} + \frac{6}{9}\right) \cdot \left(\frac{83-8}{90} + \frac{125}{100}\right) : \frac{17}{10} =$$

$$= \left(2 - \frac{2}{5} + \frac{2}{3}\right) \cdot \left(\frac{75}{90} + \frac{5}{4}\right) \cdot \frac{10}{17} =$$

$$= \left(\frac{30-6+10}{15}\right) \cdot \left(\frac{5}{6} + \frac{5}{4}\right) \cdot \frac{10}{17} =$$

$$= \frac{34}{15} \cdot \left(\frac{10+15}{12}\right) \cdot \frac{10}{17} =$$

$$= \frac{34}{15} \cdot \frac{25}{12} \cdot \frac{10}{17} =$$

$$= \frac{2}{3} \cdot \frac{5}{6} \cdot \frac{5}{1} = \frac{25}{9}$$

$$\begin{aligned}
 & (1+0,5)+(0,(3)-0,25)\cdot(1+0,5)-(0,75-0,(6)):(2-0,(6))= \\
 & =\left(1+\frac{5}{10}\right)+\left(\frac{3}{9}-\frac{25}{100}\right)\cdot\left(1+\frac{5}{10}\right)-\left(\frac{75}{100}-\frac{6}{9}\right):\left(2-\frac{6}{9}\right)= \\
 & =\left(1+\frac{1}{2}\right)+\left(\frac{1}{3}-\frac{1}{4}\right)\cdot\left(1+\frac{1}{2}\right)-\left(\frac{3}{4}-\frac{2}{3}\right):\left(2-\frac{2}{3}\right)= \\
 & =\frac{3}{2}+\left(\frac{4-3}{12}\right)\cdot\frac{3}{2}-\left(\frac{9-8}{12}\right):\frac{4}{3}= \\
 & =\frac{3}{2}+\frac{1}{12}\cdot\frac{3}{2}-\frac{1}{12}\cdot\frac{3}{4}= \\
 & =\frac{3}{2}+\frac{1}{8}-\frac{1}{16}= \\
 & =\frac{24+2-1}{16}=\frac{25}{16}
 \end{aligned}$$

$$\begin{aligned}
 & [(3,6(4) - 2,8(3)) : 1,6(2) + 0,25] : 1,8 - 0, (3) = \\
 & = \left[\left(\frac{364 - 36}{90} - \frac{283 - 28}{90} \right) : \frac{162 - 16}{90} + \frac{25}{100} \right] : \frac{18}{10} - \frac{3 - 0}{9} = \\
 & = \left[\left(\frac{328}{90} - \frac{255}{90} \right) : \frac{146}{90} + \frac{1}{4} \right] : \frac{9}{5} - \frac{3}{9} = \\
 & = \left[\left(\frac{328 - 255}{90} \right) : \frac{73}{45} + \frac{1}{4} \right] : \frac{5}{9} - \frac{3}{9} = \\
 & = \left[\frac{73}{90} : \frac{73}{45} + \frac{1}{4} \right] : \frac{5}{9} - \frac{3}{9} = \\
 & = \left[\frac{1}{2} + \frac{1}{4} \right] : \frac{5}{9} - \frac{3}{9} = \\
 & = \frac{3}{4} : \frac{5}{9} - \frac{3}{9} = \\
 & = \frac{5}{12} - \frac{1}{3} = \\
 & = \frac{5 - 4}{12} = \frac{1}{12}
 \end{aligned}$$

$$\begin{aligned}
 & 0,(027) \cdot [0,(4) : 0,1(7) - 0,(81)] = \\
 & = \frac{27}{999} \cdot \left[\frac{4}{9} : \frac{17-1}{90} - \frac{81}{99} \right] = \\
 & = \frac{3}{111} \cdot \left[\frac{4}{9} : \frac{16}{90} - \frac{9}{11} \right] = \\
 & = \frac{1}{37} \cdot \left[\frac{4}{9} : \frac{8}{45} - \frac{9}{11} \right] = \\
 & = \frac{1}{37} \cdot \left[\frac{4}{9} \cdot \frac{45}{8} - \frac{9}{11} \right] = \\
 & = \frac{1}{37} \cdot \left[\frac{5}{2} - \frac{9}{11} \right] = \\
 & = \frac{1}{37} \cdot \left[\frac{55-18}{22} \right] = \\
 & = \frac{1}{37} \cdot \frac{37}{22} = \frac{1}{22}
 \end{aligned}$$

$$\begin{aligned}
 & (1,2(6) + 1,3) \cdot \left(0,(27) - \frac{1}{7} \right) = \\
 & = \left(\frac{126-12}{90} + \frac{13}{10} \right) \cdot \left(\frac{27}{99} - \frac{1}{7} \right) = \\
 & = \left(\frac{114}{90} + \frac{13}{10} \right) \cdot \left(\frac{3}{11} - \frac{1}{7} \right) = \\
 & = \left(\frac{19}{15} + \frac{13}{10} \right) \cdot \left(\frac{21-11}{77} \right) = \\
 & = \frac{38+39}{30} \cdot \frac{10}{77} = \\
 & = \frac{77}{30} \cdot \frac{10}{77} = \frac{10}{30} = \frac{1}{3}
 \end{aligned}$$

$$\begin{aligned}
 & (1+0,5)+(0,(3)-0,25)\cdot(1+0,5)-(0,75-0,(6)):(2-0,(6))= \\
 & =\left(1+\frac{5}{10}\right)+\left(\frac{3}{9}-\frac{25}{100}\right)\cdot\left(1+\frac{5}{10}\right)-\left(\frac{75}{100}-\frac{6}{9}\right):\left(2-\frac{6}{9}\right)= \\
 & =\left(1+\frac{1}{2}\right)+\left(\frac{1}{3}-\frac{1}{4}\right)\cdot\left(1+\frac{1}{2}\right)-\left(\frac{3}{4}-\frac{2}{3}\right):\left(2-\frac{2}{3}\right)= \\
 & =\frac{3}{2}+\left(\frac{4-3}{12}\right)\cdot\frac{3}{2}-\left(\frac{9-8}{12}\right):\frac{4}{3}= \\
 & =\frac{3}{2}+\frac{1}{12}\cdot\frac{3}{2}-\frac{1}{12}\cdot\frac{3}{4}= \\
 & =\frac{3}{2}+\frac{1}{8}-\frac{1}{16}= \\
 & =\frac{24+2-1}{16}=\frac{25}{16}
 \end{aligned}$$

$$\begin{aligned}
 & 2 : 0,6 - (0,5 - 0,125 : 0,5)^2 = \\
 & 2 : 0,\bar{6} - (0,5 - 0,125 : 0,5)^2 \\
 & = 2 : \frac{6}{9} - \left(\frac{5}{10} - \frac{125}{1000} : \frac{5}{10} \right)^2 = \\
 & = 2 : \frac{2}{3} - \left(\frac{1}{2} - \frac{5}{40} \cdot \frac{2}{1} \right)^2 = \\
 & = 2 \cdot \frac{3}{2} - \left(\frac{1}{2} - \frac{1}{8} \cdot \frac{2}{1} \right)^2 = \\
 & = 3 - \left(\frac{1}{2} - \frac{1}{4} \right)^2 = \\
 & = 3 - \left(\frac{1}{4} \right)^2 = \\
 & = 3 - \frac{1}{16} = \\
 & = \frac{48 - 1}{16} = \\
 & = \frac{47}{16}
 \end{aligned}$$

$$\begin{aligned}
 & (0,8 : 1,4) \cdot (1 - 0,5)^3 + 0,5 : [(1 - 0, (3))^2 : 0, (6)^2 - (1 - 0, (6))^2] = \\
 & = \left(\frac{8}{10} : \frac{14}{10}\right) \cdot \left(1 - \frac{5}{10}\right)^3 + \frac{5}{10} : \left[\left(1 - \frac{3}{9}\right)^2 : \left(\frac{6}{9}\right)^2 - \left(1 - \frac{6}{9}\right)^2\right] = \\
 & = \frac{8}{14} \cdot \left(\frac{1}{2}\right)^3 + \frac{1}{2} : \left[\left(1 - \frac{1}{3}\right)^2 : \left(\frac{2}{3}\right)^2 - \left(1 - \frac{2}{3}\right)^2\right] = \\
 & = \frac{8}{14} \cdot \frac{1}{8} + \frac{1}{2} : \left[\left(\frac{2}{3}\right)^2 : \frac{4}{9} - \left(\frac{1}{3}\right)^2\right] = \\
 & = \frac{1}{14} + \frac{1}{2} : \left[\frac{4}{9} \cdot \frac{9}{4} - \frac{1}{9}\right] = \\
 & = \frac{1}{14} + \frac{1}{2} : \left[1 - \frac{1}{9}\right] = \\
 & = \frac{1}{14} + \frac{9}{2} = \\
 & = \frac{1 + 63}{14} = \\
 & = \frac{64}{14} = \frac{32}{7}
 \end{aligned}$$

Grazie ad Alberto C. per la segnalazione del 15.12.2007

$$\begin{aligned}
 &= (0,5 + (0,5 + (0,5 + 0,3)) \cdot 0,8) \cdot 0,4 - 0,5 = \\
 &= \left(\frac{1}{2} + \left(\frac{1}{2} + \left(\frac{1}{2} + \frac{1}{3} \right) \cdot \frac{4}{5} \right) \right) \cdot \frac{4}{9} - \frac{1}{2} = \\
 &= \left(\frac{1}{2} + \left(\frac{1}{2} + \frac{5}{3} \cdot \frac{4^2}{5} \right) \right) \cdot \frac{4}{9} - \frac{1}{2} = \\
 &= \left(\frac{1}{2} + \left(\frac{1}{2} + \frac{2}{3} \right) \right) \cdot \frac{4}{9} - \frac{1}{2} = \\
 &= \left(\frac{1}{2} + \left(\frac{3+4}{6} \right) \right) \cdot \frac{4}{9} - \frac{1}{2} = \\
 &= \left(\frac{1}{2} + \frac{7}{6} \right) \cdot \frac{4}{9} - \frac{1}{2} = \\
 &= \left(\frac{3+7}{6} \right) \cdot \frac{4}{9} - \frac{1}{2} \\
 &= \left(\frac{10}{3} \right) \cdot \frac{4^2}{9} - \frac{1}{2} = \\
 &= \frac{20}{27} - \frac{1}{2} = \\
 &= \frac{40-27}{54} = \\
 &= \frac{13}{54}
 \end{aligned}$$

$$\begin{aligned}
 &= 1 - [(0,6 + 0, (6) : 1, (3)) \cdot 3, (3) - 2] : (1 + 0, (6)) = \\
 &= 1 - \left[\left(\frac{3}{5} + \frac{2}{3} : \frac{4}{3} \right) \cdot \frac{10}{3} - 2 \right] : \left(1 + \frac{2}{3} \right) = \\
 &= 1 - \left[\left(\frac{3}{5} + \frac{2}{3} \cdot \frac{3}{4} \right) \cdot \frac{10}{3} - 2 \right] : \frac{5}{3} = \\
 &= 1 - \left[\left(\frac{3}{5} + \frac{1}{2} \right) \cdot \frac{10}{3} - 2 \right] \cdot \frac{3}{5} = \\
 &= 1 - \left[\frac{6+5}{10} \cdot \frac{10}{3} - 2 \right] \cdot \frac{3}{5} = \\
 &= 1 - \left[\frac{11}{10} \cdot \frac{10}{3} - 2 \right] \cdot \frac{3}{5} = \\
 &= 1 - \left[\frac{11}{3} - 2 \right] \cdot \frac{3}{5} = \\
 &= 1 - \left[\frac{11-6}{3} \right] \cdot \frac{3}{5} = \\
 &= 1 - \frac{5}{3} \cdot \frac{3}{5} = 1 - 1 = 0
 \end{aligned}$$


$$\begin{aligned}
 & [1,0(6) \cdot 5,625 - (0,375 + 0,5 - 0,75) \cdot 1, (3)] \cdot 0,6 - (1 - 0,5) = \\
 & = \left[\frac{16}{15} \cdot \frac{45}{8} - \left(\frac{3}{8} + \frac{1}{2} - \frac{3}{4} \right) \cdot \frac{4}{3} \right] \cdot \frac{3}{5} - \left(1 - \frac{1}{2} \right) = \\
 & = \left[6 - \frac{3+4-6}{8} \cdot \frac{4}{3} \right] \cdot \frac{3}{5} - \frac{2-1}{2} = \\
 & = \left[6 - \frac{1}{8} \cdot \frac{4}{3} \right] \cdot \frac{3}{5} - \frac{1}{2} = \\
 & = \left[6 - \frac{1}{6} \right] \cdot \frac{3}{5} - \frac{1}{2} = \\
 & = \frac{36-1}{6} \cdot \frac{3}{5} - \frac{1}{2} = \\
 & = \frac{35}{6} \cdot \frac{3}{5} - \frac{1}{2} = \\
 & = \frac{7}{2} - \frac{1}{2} = \\
 & = \frac{7-1}{6} = \frac{6}{6} = 1
 \end{aligned}$$


$$\begin{aligned}
 & (2,3 - 1, (6) - 0, (4)) : (1 - 0,4(3)) = \\
 & = \left(\frac{23}{10} - \frac{16 - 1}{9} - \frac{4}{9} \right) : \left(1 - \frac{43 - 4}{90} \right) = \\
 & = \left(\frac{23}{10} - \frac{15}{9} - \frac{4}{9} \right) : \left(1 - \frac{39}{90} \right) = \\
 & = \left(\frac{207 - 150 - 40}{90} \right) : \left(\frac{30 - 13}{30} \right) = \\
 & = \left(\frac{17}{90} \right) : \left(\frac{17}{30} \right) = \\
 & = \frac{17}{90} \cdot \frac{30}{17} = \frac{1}{3}
 \end{aligned}$$


$$\begin{aligned}
 & (1, (2) + 0,0(2) - 0, (4)) : (1 - 0,2) = \\
 & = \left(\frac{12 - 1}{9} + \frac{2 - 0}{90} - \frac{4}{9} \right) : \left(1 - \frac{2}{10} \right) = \\
 & = \left(\frac{11}{9} + \frac{2^1}{90_{45}} - \frac{4}{9} \right) : \left(1 - \frac{1}{5} \right) = \\
 & = \left(\frac{55 + 1 - 20}{45} \right) : \left(\frac{5 - 1}{5} \right) = \\
 & = \left(\frac{36}{45} \right) : \left(\frac{4}{5} \right) = \\
 & = \frac{4}{5} \cdot \frac{5}{4} = 1
 \end{aligned}$$


$$\begin{aligned}
 & (0,5 + (0,5 + (0,5 + 0,\bar{3}) \cdot 0,8)) \cdot 0,\bar{4} - 0,5 = \\
 & = \left(\frac{5}{10} + \left(\frac{5}{10} + \left(\frac{5}{10} + \frac{3-0}{9} \right) \cdot \frac{8}{10} \right) \right) \cdot \frac{4-0}{9} - \frac{5}{10} = \\
 & = \left(\frac{1}{2} + \left(\frac{1}{2} + \left(\frac{1}{2} + \frac{1}{3} \right) \cdot \frac{4}{5} \right) \right) \cdot \frac{4}{9} - \frac{1}{2} = \\
 & = \left(\frac{1}{2} + \left(\frac{1}{2} + \frac{5}{3} \cdot \frac{4^2}{5} \right) \right) \cdot \frac{4}{9} - \frac{1}{2} = \\
 & = \left(\frac{1}{2} + \left(\frac{1}{2} + \frac{2}{3} \right) \right) \cdot \frac{4}{9} - \frac{1}{2} = \\
 & = \left(\frac{1}{2} + \left(\frac{3+4}{6} \right) \right) \cdot \frac{4}{9} - \frac{1}{2} = \\
 & = \left(\frac{1}{2} + \frac{7}{6} \right) \cdot \frac{4}{9} - \frac{1}{2} = \\
 & = \left(\frac{3+7}{6} \right) \cdot \frac{4}{9} - \frac{1}{2} = \\
 & = \left(\frac{10}{6} \right) \cdot \frac{4^2}{9} - \frac{1}{2} = \\
 & = \frac{20}{27} - \frac{1}{2} = \\
 & = \frac{40-27}{54} = \frac{13}{54}
 \end{aligned}$$


Keywords

 *Matematica, Aritmetica, espressioni, frazioni, numeri razionali, razionali, insieme \mathbb{Q} , \mathbb{Q} , decimali, periodici, periodo, antiperiodo, decimali limitati, decimali illimitati periodici, espressioni, addizioni, sottrazioni, moltiplicazioni, divisioni*

 *Math, Arithmetic, Expression, Arithmetic Operations, \mathbb{Q} , Rational numbers, Recurring Decimals, Arithmetic, Fraction, Expression, Periodic Decimal Expansions, Period, Arithmetic Operations Involving Fraction, Arithmetic Operations Involving Decimal Numbers*

 *Matemática, Aritmética, fracción, Número racional, número decimal finito, número decimal periódico.*

 *Mathématique, Arithmétique, nombre rationnel, périodique, développement décimal illimité*

 *Mathematik, Arithmetik, rationale Zahl, Brüche, Dezimalbruch, Binärbruch, gewöhnlicher Bruch, gemischter Bruch, Äquivalenzrelation*