Espressioni con le quattro operazioni. Livello intermedio.

Completi di soluzione guidata.

Evaluating Expressions Involving Fractions – With solutions

1. $\left[\frac{16}{15}\cdot\frac{45}{8}-\left(\frac{3}{8}+\frac{1}{2}-\frac{3}{4}\right)\cdot\frac{4}{3}\right]\cdot\frac{2}{7}-\left(1-\frac{1}{2}\right)$ — 7/6 soluzione

2. $\left[\left(\frac{3}{2}-\frac{1}{3}\right):\left(2-\frac{1}{4}\right)-\left(\frac{1}{3}-\frac{1}{4}\right)\right]:\left(\frac{2}{7}-\frac{1}{7}\right)$ — 49/12 soluzione

3. $\frac{1}{2}+\frac{1}{2}:\left[\frac{2}{5}+\frac{1}{7}\cdot\left(\frac{2}{6}+\frac{1}{4}\right):\frac{1}{4}\right]+\frac{7}{5}:\left(\frac{1}{5}+\frac{1}{2}\right)$ — 35/11 soluzione

4. $\frac{38}{6}\cdot\left(1-\frac{1}{19}\right)-\left[\left(\frac{5}{4}+\frac{10}{3}\right)\cdot\frac{3}{20}-\frac{21}{20}\cdot\frac{5}{28}\right]:\frac{1}{3}$ — 9/2 soluzione

5. $\left\{4-\left(\frac{3}{4}+\frac{1}{2}+\frac{5}{4}\right)-\left[\left(\frac{5}{3}+\frac{2}{5}-2\right)+\frac{3}{5}\right]\right\}:\frac{1}{3}$ — 5/2 soluzione

6. $\left(\frac{16}{5}-\frac{13}{15}-\frac{5}{4}\right):\frac{3}{16}-\frac{20}{3}\cdot\left(\frac{1}{3}+\frac{19}{20}-\frac{7}{10}\right)$ — 17/9 soluzione

7. $\left[\left(5-\frac{3}{7}\right)\cdot 5-\left(\frac{32}{7}-4\right):\frac{1}{5}\right]:\frac{5}{4}+\left(1-\frac{1}{3}\right)+\frac{10}{3}$ — 20 soluzione

8. $\left\{\left[\frac{5}{7}+\frac{11}{6}:\left(\frac{1}{4}+\frac{2}{3}\right)\right]\cdot\frac{21}{19}-\left(\frac{1}{6}+\frac{7}{12}\right)\cdot\frac{4}{5}\right\}:3-\frac{1}{2}$ — 3/10 soluzione

9. $\left[\left(\frac{15}{25}-\frac{2}{6}\right)\cdot\frac{9}{12}+\left(\frac{4}{15}-\frac{11}{45}\right)\cdot\frac{10}{2}\right]:\frac{7}{9}$ — 2/5 soluzione

10. $\left[\left(\frac{9}{12}+\frac{10}{4}\right):\frac{26}{4}+\left(\frac{10}{8}-\frac{21}{18}\right):\frac{10}{12}\right]\cdot\left[\left(\frac{9}{15}+\frac{4}{2}-\frac{5}{3}\right):\frac{35}{45}\right]$ — 18/25 soluzione

11. $\left(1-\frac{5}{7}\right)\cdot\left[\left(3-\frac{6}{7}-\frac{5}{14}\right):\left(\frac{5}{6}-\frac{1}{3}-\frac{3}{7}\right)-\frac{5}{12}\right]\cdot\frac{1}{59}$ — 5/42 soluzione

12. $\left[\left(\frac{3}{4}-\frac{5}{7}\right):\left(\frac{10}{12}+\frac{4}{9}-1\right)\right]:\left\{\left(\frac{1}{2}-\frac{3}{7}\right):\left[\left(\frac{3}{4}-\frac{2}{3}\right):\frac{1}{5}\right]\right\}-\frac{1}{2}$ — 1/4 soluzione

13. $\left[\left(1-\frac{1}{2}\right)\cdot\frac{1}{8}\right]:\left\{\left[\left(\frac{3}{7}+\frac{1}{6}-\frac{5}{14}\right)\cdot\left(5+\frac{1}{4}\right)-\frac{1}{2}\right]-\frac{1}{4}\right\}+\frac{1}{2}$ — 5/8 soluzione

14. $\left(3+\frac{6}{8}-\frac{14}{7}\right)\cdot\frac{2}{7}\cdot\left(\frac{1}{4}-\frac{1}{6}\right)-\frac{1}{24}$ — 0 soluzione

15. $\frac{21}{26}:\frac{7}{13}+3\cdot\frac{5}{6}+\left(1-\frac{3}{4}\right)-\left(1-\frac{9}{28}\right)$ — 25/7 soluzione

16. $\left[\left(\frac{3}{4}+\frac{2}{3}\right)\cdot\frac{3}{34}+\left(\frac{1}{3}-\frac{1}{4}\right)\cdot\frac{3}{2}-\left(1-\frac{3}{4}\right)\cdot\frac{1}{3}\right]:\frac{3}{2}+\frac{5}{7}:\left(1+\frac{2}{7}\right)-\frac{1}{3}$ 1/3 soluzione

17. $\left[\frac{2}{3}-\left(\frac{1}{8}+\frac{1}{4}\right)\cdot\frac{2}{3}\right]:\left(3+\frac{1}{3}\right)+\left(1+\frac{1}{3}\right):8$ 7/24 soluzione

18. $1+\left(1-\frac{3}{5}\right)\cdot\left(3+\frac{1}{3}\right)-\frac{4}{3}:\left(1+\frac{1}{3}\right)+\frac{14}{5}\cdot\frac{1}{7}+3:\left(2+\frac{4}{3}\right)$ 79/30 soluzione

19. $\left\{\frac{1}{7}\cdot\left[\left(\frac{3}{4}+\frac{5}{6}\right)\cdot\left(1+\frac{5}{19}\right)-\frac{2}{3}\cdot\frac{2}{3}\right]+\frac{4}{5}:2\right\}\cdot\frac{15}{28}$ 1/3 soluzione

20. $\left\{\left[\frac{4}{7}+\frac{16}{15}\cdot\left(\frac{5}{56}-\frac{5}{28}:\frac{5}{2}+\frac{1}{4}\right)\right]:\frac{4}{7}-\frac{5}{12}\right\}:\frac{13}{16}+\frac{9}{4}:\frac{3}{4}$ 13/3 soluzione

21. $\left\{\frac{5}{6}-\left[\frac{2}{3}+\left(\frac{3}{4}-\frac{4}{9}\right)-\left(1-\frac{7}{3}\cdot\frac{1}{4}\right)\right]+\frac{2}{3}:\frac{8}{9}\right\}\cdot\frac{36}{37}$ 1 soluzione

22. $\left[\left(\frac{23}{4}-\frac{31}{8}\right):\left(\frac{29}{6}-\frac{11}{3}\right)-\left(\frac{4}{7}+\frac{5}{4}\right)\cdot\frac{7}{17}\right]\cdot\frac{49}{36}-\left(\frac{3}{12}-\frac{1}{6}\right)$ 13/12 soluzione

23. $\left[\left(\frac{3}{2}-\frac{37}{60}+\frac{4}{15}\right):\left(\frac{21}{10}-\frac{37}{20}\right)-\frac{25}{2}\cdot\left(\frac{9}{10}-\frac{3}{25}-\frac{3}{4}\right)\right]\cdot\frac{10}{13}-\frac{9}{4}$ 1 soluzione

24. $\left\{\frac{8}{5}+\left[\frac{8}{7}-\left(\frac{2}{3}+\frac{4}{5}\right)\cdot\frac{15}{22}\right]\cdot\frac{7}{3}\right\}:\frac{29}{15}$ 1 soluzione

25. $\frac{2}{3}+\frac{4}{33}\cdot\left\{\left[\frac{5}{73}\cdot\left(\frac{28}{5}-\frac{1}{8}\right)-\left(\frac{2}{15}+\frac{4}{9}-\frac{1}{3}\right)\cdot\frac{9}{22}\right]\cdot\left(\frac{7}{5}-\frac{1}{8}:\frac{1}{4}+\frac{8}{3}-\frac{7}{30}\right)\right\}$ 7/9 soluzione

26. $\left\{\left[\frac{7}{5}\cdot\left(\frac{3}{5}:\frac{7}{5}+1\right)\cdot\frac{10}{2}\right]:\frac{5}{2}+\frac{1}{4}\right\}:\frac{17}{5}$ 5/4 soluzione

27. $2+\left[\left(\frac{8}{5}-\frac{3}{2}\right)+\left(\frac{4}{3}-1\right)\right]:\frac{26}{5}$ 25/12 soluzione

28. $\frac{22}{15}\cdot\left[\frac{5}{6}+\left(10+\frac{1}{2}\right):\frac{7}{10}-\frac{1}{3}\cdot\frac{5}{2}\right]+\frac{3}{7}\cdot\frac{14}{12}$ 45/2 soluzione

29. $\left[\left(\frac{14}{3}+\frac{17}{9}\right):\frac{59}{9}+\left(\frac{31}{9}+\frac{2}{3}\right)\right]:\left(1+\frac{37}{9}\right)$ 1 soluzione

30. $\left[\left(2-\frac{4}{10}\right)\cdot\frac{3}{4}-\left(\frac{13}{20}-\frac{6}{10}\right):\frac{3}{4}\right]:\left(\frac{5}{4}-\frac{11}{12}\right)$ 17/5 soluzione

Soluzioni

$$\left[\frac{16}{15}\cdot\frac{45}{8}-\left(\frac{3}{8}+\frac{1}{2}-\frac{3}{4}\right)\cdot\frac{4}{3}\right]\cdot\frac{2}{7}-\left(1-\frac{1}{2}\right)=$$

Eseguo prima le addizioni e le sottrazioni nella parentesi rotonde, ricercando il minimo comune multiplo dei denominatori (m.c.m. (8, 2, 4) = 8 e m.c.m.(1, 2) = 2).

$$=\left[\frac{16}{15}\cdot\frac{45}{8}-\frac{3+4-6}{8}\cdot\frac{4}{3}\right]\cdot\frac{2}{7}-\frac{2-1}{2}=$$

Eseguo ora la semplificazione in croce della moltiplicazione 16/15 per 45/8.

$$=\left[\frac{^{2}\cancel{16}}{_{1}\cancel{15}}\cdot\frac{\cancel{45}^{3}}{\cancel{8}_{1}}-\frac{1}{8}\cdot\frac{4}{3}\right]\cdot\frac{2}{7}-\frac{2-1}{2}=$$

Eseguo la moltiplicazione nella parentesi quadra semplificando “in croce” il 4 e l’8 in 1 e 2.

$$=\left[6-\frac{1}{\cancel{8}_{2}}\cdot\frac{4^{1}}{3}\right]\cdot\frac{2}{7}-\frac{1}{2}=$$

$$=\left[6-\frac{1}{6}\right]\cdot\frac{2}{7}-\frac{1}{2}=$$

Eseguo prima la sottrazione nella parentesi quadra.

$$=\frac{36-1}{6}\cdot\frac{2}{7}-\frac{1}{2}=$$

$$=\frac{35}{6}\cdot\frac{2}{7}-\frac{1}{2}=$$

Eseguo la moltiplicazione semplificando “in croce”
il 35 e il 7 in 5 e 1 e il 2 e il 6 in 2 e 3.

$$=\frac{5}{3}-\frac{1}{2}=$$

Eseguo prima la sottrazione (m.c.m.(3, 2) =6).

$$=\frac{10-3}{6}=\frac{7}{6}$$

$$\left[\left(\frac{3}{2}-\frac{1}{3}\right):\left(2-\frac{1}{4}\right)-\left(\frac{1}{3}-\frac{1}{4}\right)\right]:\left(\frac{2}{7}-\frac{1}{7}\right)=$$

Eseguo prima le addizioni e le sottrazioni nella parentesi rotonde, ricercando il minimo comune multiplo dei denominatori (m.c.m. (2, 3) = 6 e m.c.m.(3, 4) = 12).
L'ultima sottrazione è tra frazioni con stesso denominatore e posso sottrarre i numeratori.

$$=\left[\left(\frac{9-2}{6}\right)\cdot\left(\frac{8-1}{4}\right)-\frac{4-3}{12}\right]:\frac{1}{7}=$$

Trasformo la divisione in una moltiplicazione per l'inverso del divisore. (1/7 -> 1/x -> 7/1)

$$=\left[\frac{7}{6}\cdot\frac{4}{7}-\frac{1}{12}\right]\cdot\frac{7}{1}=$$

Eseguo la moltiplicazione semplificando "in croce" il 7 e il 7 in 1 e 1 e il 4 e il 6 in 2 e 3.

$$=\left[\frac{2}{3}-\frac{1}{12}\right]\cdot\frac{7}{1}=$$

Eseguo prima la sottrazione (m.c.m.(3, 12) = 12).

$$=\left[\frac{8-1}{12}\right]\cdot\frac{7}{1}=$$

$$=\frac{7}{12}\cdot\frac{7}{1}=$$

$$=\frac{49}{12}$$

$$\frac{1}{2}+\frac{1}{2}:\left[\frac{2}{5}+\frac{1}{7}\cdot\left(\frac{2}{6}+\frac{1}{4}\right):\frac{1}{4}\right]+\frac{7}{5}:\left(\frac{1}{5}+\frac{1}{2}\right)$$

Eseguo prima le addizioni e le sottrazioni nella rotonde, ricercando il minimo comune multiplo dei denominatori (m.c.m.(6, 4) = 12 e m.c.m.(5, 2) = 10).

$$=\frac{1}{2}+\frac{1}{2}:\left[\frac{2}{5}+\frac{1}{7}\cdot\left(\frac{4+3}{12}\right):\frac{1}{4}\right]+\frac{7}{5}:\left(\frac{2+5}{10}\right)=$$

Eseguo la moltiplicazione semplificando “in croce” il 7 e il 7 in 1 e 1 e il 5 e il 10 in 1 e 2. Posso, a questo punto, semplificare “in linea” le divisioni

$$=\frac{1}{2}+\frac{1}{2}:\left[\frac{2}{5}+\frac{1}{7}\cdot\frac{7}{12}:\frac{1}{4}\right]+\frac{\cancel{7}}{\cancel{5}}:\frac{\cancel{7}}{\cancel{10}_{2}}=$$

$$=\frac{1}{2}+\frac{1}{2}:\left[\frac{2}{5}+\frac{1}{\cancel{12}_{3}}:\frac{1}{\cancel{4}}\right]+\frac{2}{1}=$$

Eseguo la divisione semplificando “in linea” il 12 e il 4 in 3 e 1.

Eseguo prima la sottrazione (m.c.m.(5, 3) = 15).

$$=\frac{1}{2}+\frac{1}{2}:\left[\frac{6+5}{15}\right]+\frac{2}{1}=$$

$$=\frac{1}{2}+\frac{1}{2}:\frac{15}{11}+\frac{2}{1}=$$

Trasformo la divisone in una moltiplicazione per l’inverso del divisore. (15/11 -> 1/x -> 11/15) e la eseguo.

$$=\frac{1}{2}+\frac{1}{2}\cdot\frac{11}{15}+\frac{2}{1}=$$

$$=\frac{1}{2}+\frac{15}{22}+\frac{2}{1}=$$

Eseguo le addizioni (m.c.m.(2, 22, 1) = 22).

$$=\frac{11+15+44}{22}=\frac{70}{22}=\frac{35}{11}$$

La frazione 70/22 è riducibile essendo il numeratore e il denominatore divisibili per 2 (M.C.D.(70, 22) = 2).

$$\frac{38}{6}\cdot\left(1-\frac{1}{19}\right)-\left[\left(\frac{5}{4}+\frac{10}{3}\right)\cdot\frac{3}{20}-\frac{21}{20}\cdot\frac{5}{28}\right]:\frac{1}{3}=$$

Eseguo la differenza usando 9/9 come unità e l'addizioni (m.c.m.(4, 3) = 12).
Eseguo la moltiplicazione semplificando "in croce" il 21 e il 28 in 3 e 4 (M.C.D.(21, 28)=7).
Eseguo la moltiplicazione semplificando "in croce" il 5 e il 20 in 1 e 4 (M.C.D.(5, 20)=5).

$$=\frac{38}{6}\cdot\left(\frac{19-1}{19}\right)-\left[\left(\frac{15+40}{12}\right)\cdot\frac{3}{20}-\frac{3}{4}\cdot\frac{1}{4}\right]\cdot\frac{3}{1}=$$

Eseguo la moltiplicazione semplificando "in croce" il 55 e il 20 in 11 e 4 (M.C.D.(55, 20)=5.
Eseguo la moltiplicazione semplificando "in croce" il 3 e il 12 in 1 e 4 (M.C.D.(3, 12)=3.

$$=\frac{38}{6}\cdot\frac{18}{19}-\left[\frac{55}{12}\cdot\frac{3}{20}-\frac{3}{16}\right]\cdot\frac{3}{1}=$$

$$=\frac{2}{1}\cdot\frac{3}{1}-\left[\frac{11}{4}\cdot\frac{1}{4}-\frac{3}{16}\right]\cdot\frac{3}{1}=$$

Eseguo la differenza come differenza dei numeratori essendo le frazioni con lo stesso denominatore che riporto com'è.

$$=6-\left[\frac{11}{16}-\frac{3}{16}\right]\cdot\frac{3}{1}=$$

Eseguo la riduzione della frazione 8/16 usando il M.C.D.(8, 18)=8.

$$=6-\frac{\cancel{8}^{1}}{\cancel{16}_{2}}\cdot\frac{3}{1}=$$

$$=6-\frac{3}{2}=$$

Eseguo la differenza ponendo 6 pari alla frazione equivalente 12/2 o usando il m.c.d.(1; 2).

$$=\frac{12-3}{2}=\frac{9}{2}$$

$$\left\{4-\left(\frac{3}{4}+\frac{1}{2}+\frac{5}{4}\right)-\left[\left(\frac{5}{3}+\frac{2}{5}-2\right)+\frac{3}{5}\right]\right\}:\frac{1}{3}=$$

Eseguo le somme e differenze nelle due parentesi tonde cercando il m.c.d. (m.c.m.) dei denominatori).
m.c.m.(4, 2, 4) = 4 m.c.m.(3, 5, 1) = 15

$$=\left\{4-\left(\frac{3+2+5}{4}\right)-\left[\left(\frac{25+6-30}{15}\right)+\frac{3}{5}\right]\right\}\cdot\frac{3}{1}=$$

$$=\left\{4-\frac{10}{4}-\left[\frac{1}{15}+\frac{3}{5}\right]\right\}\cdot\frac{3}{1}=$$

Eseguo la somma nella parentesi quadra.
m.c.m.(5, 15) = 15

$$=\left\{4-\frac{5}{2}-\left[\frac{1+9}{15}\right]\right\}\cdot\frac{3}{1}=$$

$$=\left\{4-\frac{5}{2}-\frac{\cancel{10}^{2}}{\cancel{15}_{3}}\right\}\cdot\frac{3}{1}=$$

Semplifico 10/15 per 5 ed eseguo la somma nella parentesi graffa.
m.c.m.(1, 2, 3) = 6

$$=\left\{\frac{24-15-4}{6}\right\}\cdot\frac{3}{1}=$$

Eseguo la moltiplicazione e la semplificazione in croce tra 3 e 6.

$$=\frac{5}{\cancel{6}_{2}}\cdot\frac{\cancel{3}^{1}}{1}=\frac{5}{2}$$

$$\left(\frac{16}{5}-\frac{13}{15}-\frac{5}{4}\right):\frac{3}{16}-\frac{20}{3}\cdot\left(\frac{1}{3}+\frac{19}{20}-\frac{7}{10}\right)=$$

Eseguo le somme e differenze nelle due parentesi tonde cercando il m.c.d. (m.c.m.) dei denominatori).
m.c.m.(5, 15, 4) = 60
m.c.m.(3; 20; 10) = 60

$$=\left(\frac{192-52-75}{60}\right)\cdot\frac{16}{3}-\frac{20}{3}\cdot\left(\frac{20+57-42}{60}\right)=$$

$$=\frac{\cancel{65}^{13}}{\cancel{60}_{12_3}}\cdot\frac{\cancel{16}^{4}}{3}-\frac{\cancel{20}^{1}}{3}\cdot\frac{35}{\cancel{60}_{3}}=$$

Eseguo le moltiplicazione e le semplificazioni in croce.
16 e 60 sono divisibili per 4 e 60 e 65 per 5. La procedura non è univoca ma porta allo stesso risultato se eseguita correttamente (banalmente si potrebbe dividere prima per 2 il 16 e il 60 o il 65 e il 60 per 5).

$$=\frac{52}{9}-\frac{35}{9}=$$

Con lo stesso denominatore si esegue la differenza dei numeratori.

$$=\frac{52-35}{9}=\frac{17}{9}$$

$$\left[\left(5-\frac{3}{7}\right)\cdot 5-\left(\frac{32}{7}-4\right):\frac{1}{5}\right]:\frac{5}{4}+\left(1-\frac{1}{3}\right)+\frac{10}{3}=$$

Eseguo le somme e differenze nelle parentesi tonde. Essendo in tutti i caso uno dei termini un numero intero il m.c.d. (m.c.m. dei denominatori) e quello della frazione.

$$=\left[\left(\frac{35-3}{7}\right)\cdot 5-\left(\frac{32-28}{7}\right)\cdot\frac{5}{1}\right]\cdot\frac{4}{5}+\frac{2}{3}+\frac{10}{3}=$$

$$=\left[\frac{32}{7}\cdot 5-\frac{4}{7}\cdot\frac{5}{1}\right]\cdot\frac{4}{5}+\frac{2}{3}+\frac{10}{3}=$$

$$=\left[\frac{160}{7}-\frac{20}{7}\right]\cdot\frac{4}{5}+\frac{2}{3}+\frac{10}{3}=$$

Con lo stesso denominatore si esegue la differenza dei numeratori.

$$=\frac{^{\not 140}}{_{\not 7_1}}\cdot\frac{4}{5}+\frac{2}{3}+\frac{10}{3}=$$

$$=\frac{^{\not 20}}{1}\cdot\frac{4}{_{\not 5_1}}+\frac{2}{3}+\frac{10}{3}=$$

Eseguo la moltiplicazione e la semplificazione in croce tra 140 e 7 e poi con il denominatore 5 della seconda frazione.

$$=\frac{16}{1}+\frac{2}{3}+\frac{10}{3}=$$

Eseguo la somma osservando che i denominatori sono 1, 3 e 3.

$$=\frac{48+2+10}{3}=$$

La frazione ottenuta è riducibile (M.C.D./60; 3) = 3).

$$=\frac{60}{3}=20$$

$$\left\{\left[\frac{5}{7}+\frac{11}{6}:\left(\frac{1}{4}+\frac{2}{3}\right)\right]\cdot\frac{21}{19}-\left(\frac{1}{6}+\frac{7}{12}\right)\cdot\frac{4}{5}\right\}:3-\frac{1}{2}=$$

$$=\left\{\left[\frac{5}{7}+\frac{11}{6}:\left(\frac{3+8}{12}\right)\right]\cdot\frac{21}{19}-\left(\frac{2+7}{12}\right)\cdot\frac{4}{5}\right\}:3-\frac{1}{2}=$$

$$=\left\{\left[\frac{5}{7}+\frac{2}{1}\right]\cdot\frac{21}{19}-\left(\frac{\cancel{9}^{3}}{\cancel{3}_{1}}\right)\cdot\frac{1}{5}\right\}\cdot\frac{1}{3}-\frac{1}{2}=$$

$$=\left\{\left[\frac{\cancel{19}^{1}}{\cancel{7}_{1}}\right]\cdot\frac{\cancel{21}^{3}}{\cancel{19}_{1}}-\left(\frac{3}{1}\right)\cdot\frac{1}{5}\right\}\cdot\frac{1}{3}-\frac{1}{2}=$$

$$=\left\{\frac{3}{1}-\frac{3}{5}\right\}\cdot\frac{1}{3}-\frac{1}{2}=$$

$$=\left\{\frac{15-3}{5}\right\}\cdot\frac{1}{3}-\frac{1}{2}=$$

$$=\left\{\frac{\cancel{12}^{4}}{5}\right\}\cdot\frac{1}{\cancel{3}_{1}}-\frac{1}{2}=$$

$$=\frac{4}{5}-\frac{1}{2}=$$

$$=\frac{8-5}{10}=\frac{3}{10}$$

$$\left[\left(\frac{15}{25}-\frac{2}{6}\right)\cdot\frac{9}{12}+\left(\frac{4}{15}-\frac{11}{45}\right)\cdot\frac{10}{2}\right]:\frac{7}{9}=$$

$$\left[\left(\frac{\cancel{3}\cancel{15}}{\cancel{25}_{5}}-\frac{\cancel{2}^{1}}{\cancel{6}_{3}}\right)\cdot\frac{\cancel{9}^{3}}{\cancel{12}_{4}}+\left(\frac{4}{15}-\frac{11}{45}\right)\cdot\frac{10}{2}\right]:\frac{7}{9}=$$

$$=\left[\left(\frac{9-5}{15}\right)\cdot\frac{3}{4}+\left(\frac{12-11}{45}\right)\cdot\frac{5}{1}\right]\cdot\frac{9}{7}=$$

$$=\left[\left(\frac{\cancel{4}}{\cancel{15}_{5}}\right)\cdot\frac{\cancel{3}^{1}}{\cancel{4}_{1}}+\left(\frac{1}{\cancel{45}_{9}}\right)\cdot\frac{\cancel{5}}{1}\right]\cdot\frac{9}{7}=$$

$$=\left[\frac{1}{5}+\frac{1}{9}\right]\cdot\frac{9}{7}=$$

$$=\left[\frac{\cancel{14}}{\cancel{45}_{5}}\right]\cdot\frac{\cancel{9}}{\cancel{7}_{1}}=\frac{2}{5}$$

$$\left[\left(\frac{9}{12}+\frac{10}{4}\right):\frac{26}{4}+\left(\frac{10}{8}-\frac{21}{18}\right):\frac{10}{12}\right]\cdot\left[\left(\frac{9}{15}+\frac{4}{2}-\frac{5}{3}\right):\frac{35}{45}\right]=$$

$$=\left[\left(\frac{9+30}{12}\right)\cdot\frac{4}{26}+\left(\frac{90-84}{72}\right)\cdot\frac{12}{10}\right]\cdot\left[\left(\frac{18+60-50}{30}\right)\cdot\frac{9}{7}\right]=$$

$$=\left[\frac{39}{12}\cdot\frac{4}{26}+\frac{6}{72}\cdot\frac{12}{10}\right]\cdot\left[\frac{28}{30}\cdot\frac{9}{7}\right]=$$

NB 72 e 12 sono divisibili per 12 😊

NB 39 e 26 sono divisibili per 13 😊

$$=\left[\frac{1}{2}+\frac{1}{10}\right]\cdot\frac{\cancel{12}^{6}}{\cancel{10}_{5}}=$$

$$=\left[\frac{5+1}{10}\right]\cdot\frac{6}{5}=$$

$$=\frac{\cancel{6}^{3}}{\cancel{10}_{5}}\cdot\frac{6}{5}=$$

$$=\frac{3}{5}\cdot\frac{6}{5}=\frac{18}{25}$$

$$\left(1-\frac{5}{7}\right)\cdot\left[\left(3-\frac{6}{7}-\frac{5}{14}\right):\left(\frac{5}{6}-\frac{1}{3}-\frac{3}{7}\right)-\frac{5}{12}\right]\cdot\frac{1}{59}=$$

$$=\left(\frac{7-5}{7}\right)\cdot\left[\left(\frac{42-12-5}{14}\right):\left(\frac{35-14-18}{42}\right)-\frac{5}{12}\right]\cdot\frac{1}{59}=$$

$$=\frac{2}{7}\cdot\left[\frac{25}{14}:\frac{3}{42}-\frac{5}{12}\right]\cdot\frac{1}{59}=$$

$$=\frac{2}{7}\cdot\left[\frac{25}{14}\cdot\frac{42}{3}-\frac{5}{12}\right]\cdot\frac{1}{59}=$$

$$=\frac{2}{7}\cdot\left[\frac{25}{2}\cdot\frac{6}{3}-\frac{5}{12}\right]\cdot\frac{1}{59}=$$

$$=\frac{2}{7}\cdot\left[25-\frac{5}{12}\right]\cdot\frac{1}{59}=$$

$$=\frac{2}{7}\cdot\left[\frac{300-5}{12}\right]\cdot\frac{1}{59}=$$

$$=\frac{\cancel{2}^{1}}{7}\cdot\frac{\cancel{295}^{5}}{\cancel{12}_{6}}\cdot\frac{1}{\cancel{59}_{1}}=\frac{5}{42}$$

NB 295 è divisibile per 59 ☺

$$\left[\left(\frac{3}{4}-\frac{5}{7}\right):\left(\frac{10}{12}+\frac{4}{9}-1\right)\right]:\left\{\left(\frac{1}{2}-\frac{3}{7}\right):\left[\left(\frac{3}{4}-\frac{2}{3}\right):\frac{1}{5}\right]\right\}-\frac{1}{2}=$$

$$=\left[\frac{21-20}{28}:\left(\frac{5}{6}+\frac{4}{9}-1\right)\right]:\left\{\left(\frac{7-6}{14}\right):\left[\left(\frac{9-8}{12}\right)\cdot\frac{5}{1}\right]\right\}-\frac{1}{2}=$$

$$=\left[\frac{1}{28}:\frac{15+8-18}{18}\right]:\left\{\frac{1}{14}:\left[\frac{1}{12}\cdot\frac{5}{1}\right]\right\}-\frac{1}{2}=$$

$$=\left[\frac{1}{28}\cdot\frac{18}{5}\right]:\left\{\frac{1}{14}\cdot\frac{12}{5}\right\}-\frac{1}{2}=$$

$$=\left[\frac{1}{14}\cdot\frac{9}{5}\right]:\left\{\frac{1}{7}\cdot\frac{6}{5}\right\}-\frac{1}{2}=$$

$$=\frac{9}{70}:\frac{6}{35}-\frac{1}{2}=$$

$$=\frac{9}{70}\cdot\frac{35}{6}-\frac{1}{2}=$$

$$=\frac{3}{2}\cdot\frac{1}{2}-\frac{1}{2}=$$

$$=\frac{3}{4}-\frac{1}{2}=$$

$$=\frac{3-2}{4}=\frac{1}{4}$$

$$\left[\left(1-\frac{1}{2}\right)\cdot\frac{1}{8}\right]:\left\{\left[\left(\frac{3}{7}+\frac{1}{6}-\frac{5}{14}\right)\cdot\left(5+\frac{1}{4}\right)-\frac{1}{2}\right]-\frac{1}{4}\right\}+\frac{1}{2}=$$

$$=\left[\left(\frac{2-1}{2}\right)\cdot\frac{1}{8}\right]:\left\{\left[\left(\frac{18+7-15}{42}\right)\cdot\frac{21}{4}-\frac{1}{2}\right]-\frac{1}{4}\right\}+\frac{1}{2}=$$

$$=\left[\frac{1}{2}\cdot\frac{1}{8}\right]:\left\{\left[\frac{\cancel{5}\cancel{10}}{\cancel{42}_{2}}\cdot\frac{\cancel{21}^{1}}{\cancel{4}_{2}}-\frac{1}{2}\right]-\frac{1}{4}\right\}-\frac{1}{2}=$$

$$=\frac{1}{16}:\left\{\frac{3}{4}-\frac{1}{4}\right\}+\frac{1}{2}=$$

$$=\frac{1}{16}:\left\{\frac{3-1}{4}\right\}+\frac{1}{2}=$$

$$=\frac{1}{16}:\frac{2}{4}+\frac{1}{2}=$$

$$=\frac{1}{\cancel{16}_{8}}\cdot\frac{\cancel{2}^{1}}{1_{1}}+\frac{1}{2}=$$

$$=\frac{1}{8}-\frac{1}{2}=$$

$$=\frac{1+4}{8}=\frac{5}{8}$$

$$\left(3+\frac{6}{8}-\frac{14}{7}\right)\cdot\frac{2}{7}\cdot\left(\frac{1}{4}-\frac{1}{6}\right)-\frac{1}{24}=$$

$$=\left(3+\frac{3}{4}-\frac{2}{1}\right)\cdot\frac{2}{7}\cdot\left(\frac{3-2}{12}\right)-\frac{1}{24}=$$

$$=\frac{12+3-8}{4}\cdot\frac{2}{7}\cdot\frac{1}{12}-\frac{1}{24}=$$

$$=\frac{7}{4}\cdot\frac{2}{7}\cdot\frac{1}{12}-\frac{1}{24}=$$

$$=\frac{1}{2}\cdot\frac{1}{12}-\frac{1}{24}=$$

$$=\frac{1}{24}-\frac{1}{24}=0$$

$$\frac{21}{26}:\frac{7}{13}+3\cdot\frac{5}{6}+\left(1-\frac{3}{4}\right)-\left(1-\frac{9}{28}\right)=$$

Trasformo la divisione in una moltiplicazione…

Semplicio la moltiplicazione in croce per 3

Eseguo le due differenze nella parentesi tonda

$$=\frac{21}{26}\cdot\frac{13}{7}+\frac{\cancel{3}^{1}}{}\cdot\frac{5}{\cancel{6}_{2}}+\left(\frac{4-3}{4}\right)-\left(\frac{28-9}{28}\right)=$$

$$=\frac{3}{2}+\frac{5}{2}+\frac{1}{4}-\frac{19}{28}=$$

$$=\frac{42+70+7-19}{28}=$$

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

Riducibile dividendo numeratore e denominatore per 2

$$=\frac{50}{14}=$$

Riducibile dividendo numeratore e denominatore ancora per 2

$$=\frac{25}{7}$$

$$\left[\left(\frac{3}{4}+\frac{2}{3}\right)\cdot\frac{3}{34}+\left(\frac{1}{3}-\frac{1}{4}\right)\cdot\frac{3}{2}-\left(1-\frac{3}{4}\right)\cdot\frac{1}{3}\right]:\frac{3}{2}+\frac{5}{7}:\left(1+\frac{2}{7}\right)-\frac{1}{3}=$$

$$=\left[\frac{9+8}{12}\cdot\frac{3}{34}+\frac{4-3}{12}\cdot\frac{3}{2}-\frac{4-3}{4}\cdot\frac{1}{3}\right]\cdot\frac{2}{3}+\frac{5}{7}:\left(\frac{7+2}{7}\right)-\frac{1}{3}=$$

$$=\left[\frac{17}{12}\cdot\frac{3}{34}+\frac{1}{12}\cdot\frac{3}{2}-\frac{1}{4}\cdot\frac{1}{3}\right]\cdot\frac{2}{3}+\frac{5}{7}:\frac{9}{7}-\frac{1}{3}=$$

$$=\left[\frac{1}{8}+\frac{1}{8}-\frac{1}{12}\right]\cdot\frac{2}{3}+\frac{5}{7}\cdot\frac{7}{9}-\frac{1}{3}=$$

$$=\left[\frac{\cancel{2}^{1}}{\cancel{8}_{4}}-\frac{1}{12}\right]\cdot\frac{2}{3}+\frac{5}{9}-\frac{1}{3}=$$

$$=\left[\frac{3-1}{12}\right]\cdot\frac{2}{3}+\frac{5}{9}-\frac{1}{3}=$$

$$=\left[\frac{2}{12}\right]\cdot\frac{2}{3}+\frac{5}{9}-\frac{1}{3}=$$

$$=\frac{1}{9}+\frac{5}{9}-\frac{1}{3}=$$

$$=\frac{\cancel{6}^{2}}{\cancel{9}_{3}}-\frac{1}{3}=\frac{1}{3}$$

$$\left[\frac{2}{3}-\left(\frac{1}{8}+\frac{1}{4}\right)\cdot\frac{2}{3}\right]:\left(3+\frac{1}{3}\right)+\left(1+\frac{1}{3}\right):8=$$

$$=\left[\frac{2}{3}-\left(\frac{1+2}{8}\right)\cdot\frac{2}{3}\right]:\left(\frac{9+1}{3}\right)+\left(\frac{3+1}{3}\right)\cdot\frac{1}{8}=$$

$$=\left[\frac{2}{3}-\frac{3}{8}\cdot\frac{2}{3}\right]:\frac{10}{3}+\frac{4}{3}\cdot\frac{1}{8}=$$

$$=\left[\frac{2}{3}-\frac{1}{4}\right]\cdot\frac{3}{10}+\frac{1}{6}=$$

$$=\left[\frac{8-3}{12}\right]\cdot\frac{3}{10}+\frac{1}{6}=$$

$$=\frac{5}{12}\cdot\frac{3}{10}+\frac{1}{6}=$$

$$=\frac{1}{8}+\frac{1}{6}=$$

$$=\frac{3+4}{24}=\frac{7}{24}$$

$$1+\left(1-\frac{3}{5}\right)\cdot\left(3+\frac{1}{3}\right)-\frac{4}{3}:\left(1+\frac{1}{3}\right)+\frac{14}{5}\cdot\frac{1}{7}+3:\left(2+\frac{4}{3}\right)=$$

$$=1+\left(\frac{5-3}{5}\right)\cdot\left(\frac{9+1}{3}\right)-\frac{4}{3}:\left(\frac{3+1}{3}\right)+\frac{2}{5}+3:\left(\frac{6+4}{3}\right)=$$

$$=1+\frac{2}{5}\cdot\frac{10}{3}-\frac{4}{3}\cdot\frac{3}{4}+\frac{2}{5}+3\cdot\frac{3}{10}=$$

$$=1+\frac{4}{3}-1+\frac{2}{5}+\frac{9}{10}=$$

posso semplificare 1 … -1=0

$$=\frac{4}{3}+\frac{2}{5}+\frac{9}{10}=$$

$$=\frac{40+12+27}{30}=\frac{79}{30}$$

$$\left\{\frac{1}{7}\cdot\left[\left(\frac{3}{4}+\frac{5}{6}\right)\cdot\left(1+\frac{5}{19}\right)-\frac{2}{3}\cdot\frac{2}{3}\right]+\frac{4}{5}:2\right\}\cdot\frac{15}{28}=$$

$$=\left\{\mathbf{\frac{1}{7}}\cdot\left[\mathbf{\frac{9+10}{12}\cdot\frac{19+5}{19}-\frac{2}{3}\cdot\frac{2}{3}}\right]+\mathbf{\frac{4}{5}\cdot\frac{1}{2}}\right\}\cdot\mathbf{\frac{15}{28}}=$$

$$=\left\{\mathbf{\frac{1}{7}}\cdot\left[\mathbf{\frac{19}{12}\cdot\frac{24}{19}-\frac{4}{9}}\right]+\mathbf{\frac{2}{5}}\right\}\cdot\mathbf{\frac{15}{28}}=$$

$$=\left\{\mathbf{\frac{1}{7}}\cdot\left[\mathbf{2-\frac{4}{9}}\right]+\mathbf{\frac{2}{5}}\right\}\cdot\mathbf{\frac{15}{28}}=$$

$$=\left\{\mathbf{\frac{1}{7}}\cdot\mathbf{\frac{18-4}{9}}+\mathbf{\frac{2}{5}}\right\}\cdot\mathbf{\frac{15}{28}}=$$

$$=\left\{\mathbf{\frac{1}{7}}\cdot\mathbf{\frac{14}{9}}+\mathbf{\frac{2}{5}}\right\}\cdot\mathbf{\frac{15}{28}}=$$

$$=\left\{\mathbf{\frac{2}{9}}+\mathbf{\frac{2}{5}}\right\}\cdot\mathbf{\frac{15}{28}}=$$

$$=\mathbf{\frac{10+18}{45}}\cdot\mathbf{\frac{15}{28}}=$$

$$=\mathbf{\frac{28}{45}}\cdot\mathbf{\frac{15}{28}}=\mathbf{\frac{1}{3}}$$

$$\left\{\left[\frac{4}{7}+\frac{16}{15}\cdot\left(\frac{5}{56}-\frac{5}{28}:\frac{5}{2}+\frac{1}{4}\right)\right]:\frac{4}{7}-\frac{5}{12}\right\}:\frac{13}{16}+\frac{9}{4}:\frac{3}{4}=$$

$$=\left\{\left[\frac{4}{7}+\frac{16}{15}\cdot\left(\frac{5}{56}-\frac{5}{28}\cdot\frac{2}{5}+\frac{1}{4}\right)\right]\cdot\frac{7}{4}-\frac{5}{12}\right\}\cdot\frac{16}{13}+\frac{9}{4}\cdot\frac{4}{3}=$$

$$=\left\{\left[\frac{4}{7}+\frac{16}{15}\cdot\left(\frac{5}{56}-\frac{1}{14}+\frac{1}{4}\right)\right]\cdot\frac{7}{4}-\frac{5}{12}\right\}\cdot\frac{16}{13}+3=$$

$$=\left\{\left[\frac{4}{7}+\frac{16}{15}\cdot\left(\frac{5}{56}-\frac{1}{14}+\frac{1}{4}\right)\right]\cdot\frac{7}{4}-\frac{5}{12}\right\}\cdot\frac{16}{13}+3=$$

$$=\left\{\left[\frac{4}{7}+\frac{16}{15}\cdot\frac{15}{56}\right]\cdot\frac{7}{4}-\frac{5}{12}\right\}\cdot\frac{16}{13}+3=$$

$$=\left\{\left[\frac{4}{7}+\frac{2}{7}\right]\cdot\frac{7}{4}-\frac{5}{12}\right\}\cdot\frac{16}{13}+3=$$

$$=\left\{\frac{6}{7}\cdot\frac{7}{4}-\frac{5}{12}\right\}\cdot\frac{16}{13}+3=$$

$$=\left\{\frac{3}{2}-\frac{5}{12}\right\}\cdot\frac{16}{13}+3=$$

$$=\left\{\frac{18-5}{12}\right\}\cdot\frac{16}{13}+3=$$

$$=\frac{13}{12}\cdot\frac{16}{13}+3=$$

$$=\frac{4}{3}+3=\frac{4+9}{3}=\frac{13}{3}$$

$$\left\{\frac{5}{6}-\left[\frac{2}{3}+\left(\frac{3}{4}-\frac{4}{9}\right)-\left(1-\frac{7}{3}\cdot\frac{1}{4}\right)\right]+\frac{2}{3}:\frac{8}{9}\right\}\cdot\frac{36}{37}=$$

$$=\left\{\frac{5}{6}-\left[\frac{2}{3}+\left(\frac{27-16}{36}\right)-\left(1-\frac{7}{12}\right)\right]+\frac{2}{3}\cdot\frac{9}{8}\right\}\cdot\frac{36}{37}=$$

$$=\left\{\frac{5}{6}-\left[\frac{2}{3}+\frac{11}{36}-\left(\frac{12-7}{12}\right)\right]+\frac{3}{4}\right\}\cdot\frac{36}{37}=$$

$$=\left\{\frac{5}{6}-\left[\frac{2}{3}+\frac{11}{36}-\frac{5}{12}\right]+\frac{3}{4}\right\}\cdot\frac{36}{37}=$$

$$=\left\{\frac{5}{6}-\left[\frac{24+11-15}{36}\right]+\frac{3}{4}\right\}\cdot\frac{36}{37}=$$

$$=\left\{\frac{5}{6}-\frac{20}{36}+\frac{3}{4}\right\}\cdot\frac{36}{37}=$$

$$=\left\{\frac{30-20+27}{36}\right\}\cdot\frac{36}{37}=$$

$$=\frac{37}{36}\cdot\frac{36}{37}=1$$

$$\left[\left(\frac{23}{4}-\frac{31}{8}\right):\left(\frac{29}{6}-\frac{11}{3}\right)-\left(\frac{4}{7}+\frac{5}{4}\right)\cdot\frac{7}{17}\right]\cdot\frac{49}{36}-\left(\frac{3}{12}-\frac{1}{6}\right)=$$

$$=\left[\left(\frac{46-31}{8}\right):\left(\frac{29-22}{6}\right)-\left(\frac{16+35}{28}\right)\cdot\frac{7}{17}\right]\cdot\frac{49}{36}-\left(\frac{3-2}{12}\right)=$$

$$=\left[\frac{15}{8}\cdot\frac{6}{7}-\frac{51}{28}\cdot\frac{7}{17}\right]\cdot\frac{49}{36}-\frac{1}{12}=$$

$$=\left[\frac{45}{28}-\frac{3}{4}\right]\cdot\frac{49}{36}-\frac{1}{12}=$$

$$=\left[\frac{45-21}{28}\right]\cdot\frac{49}{36}-\frac{1}{12}=$$

$$=\frac{\cancel{24}^{6}}{\cancel{28}_{7}}\cdot\frac{49}{36}-\frac{1}{12}=$$

$$=\frac{7}{6}-\frac{1}{12}=$$

$$=\frac{14-1}{12}=\frac{13}{12}$$

$$\left[\left(\frac{3}{2}-\frac{37}{60}+\frac{4}{15}\right):\left(\frac{21}{10}-\frac{37}{20}\right)-\frac{25}{2}\cdot\left(\frac{9}{10}-\frac{3}{25}-\frac{3}{4}\right)\right]\cdot\frac{10}{13}-\frac{9}{4}=$$

$$=\left[\left(\frac{90-37+16}{60}\right):\left(\frac{42-37}{20}\right)-\frac{25}{2}\cdot\left(\frac{90-12-75}{100}\right)\right]\cdot\frac{10}{13}-\frac{9}{4}=$$

$$=\left[\frac{\cancel{6}\cancel{0}^{23}}{\cancel{6}\cancel{0}_{2}}\cdot\frac{2\cancel{0}}{5}-\frac{25}{2}\cdot\frac{3}{100}\right]\cdot\frac{10}{13}-\frac{9}{4}=$$

$$=\left[\frac{23}{5}-\frac{3}{8}\right]\cdot\frac{10}{13}-\frac{9}{4}=$$

$$=\left[\frac{184-15}{40}\right]\cdot\frac{10}{13}-\frac{9}{4}=$$

$$=\frac{169}{4\cancel{0}}\cdot\frac{1\cancel{0}}{13}-\frac{9}{4}=$$

$$=\frac{13}{4}-\frac{9}{4}=\frac{4}{4}=1$$

$$\left\{\frac{8}{5}+\left[\frac{8}{7}-\left(\frac{2}{3}+\frac{4}{5}\right)\cdot\frac{15}{22}\right]\cdot\frac{7}{3}\right\}:\frac{29}{15}=$$

$$=\left\{\frac{8}{5}+\left[\frac{8}{7}-\left(\frac{10+12}{15}\right)\cdot\frac{15}{22}\right]\cdot\frac{7}{3}\right\}\cdot\frac{15}{29}=$$

$$=\left\{\frac{8}{5}+\left[\frac{8}{7}-\frac{22}{15}\cdot\frac{15}{22}\right]\cdot\frac{7}{3}\right\}\cdot\frac{15}{29}=$$

$$=\left\{\frac{8}{5}+\left[\frac{8-7}{7}\right]\cdot\frac{7}{3}\right\}\cdot\frac{15}{29}=$$

$$=\left\{\frac{8}{5}+\frac{1}{7}\cdot\frac{7}{3}\right\}\cdot\frac{15}{29}=$$

$$=\left\{\frac{8}{5}+\frac{1}{3}\right\}\cdot\frac{15}{29}=$$

$$=\left\{\frac{24+5}{15}\right\}\cdot\frac{15}{29}=$$

$$=\frac{29}{15}\cdot\frac{15}{29}=1$$

$$\frac{2}{3}+\frac{4}{33}\cdot\left\{\left[\frac{5}{73}\cdot\left(\frac{28}{5}-\frac{1}{8}\right)-\left(\frac{2}{15}+\frac{4}{9}-\frac{1}{3}\right)\cdot\frac{9}{22}\right]\cdot\left(\frac{7}{5}-\frac{1}{8}:\frac{1}{4}+\frac{8}{3}-\frac{7}{30}\right)\right\}=$$

$$=\frac{2}{3}+\frac{4}{33}\cdot\left\{\left[\frac{5}{73}\cdot\frac{219}{40}-\frac{11}{45}\cdot\frac{9}{22}\right]\cdot\left(\frac{7}{5}-\frac{1}{2}+\frac{8}{3}-\frac{7}{30}\right)\right\}=$$

NB 219 è divisibile per 73 ☺

$$=\frac{2}{3}+\frac{4}{33}\cdot\left\{\left[\frac{3}{8}-\frac{1}{10}\right]\cdot\frac{10\cancel{0}}{3\cancel{0}}\right\}=$$

$$=\frac{2}{3}+\frac{4}{33}\cdot\left\{\left[\frac{15-4}{40}\right]\cdot\frac{10}{3}\right\}=$$

$$=\frac{2}{3}+\frac{4}{33}\cdot\left\{\frac{11}{40}\cdot\frac{10}{3}\right\}=$$

$$=\frac{2}{3}+\frac{4}{33}\cdot\frac{11}{12}=$$

$$=\frac{2}{3}+\frac{1}{9}=$$

$$=\frac{6+1}{9}=\frac{7}{9}$$

$$\left\{\left[\frac{7}{5}\cdot\left(\frac{3}{5}:\frac{7}{5}+1\right)\cdot\frac{10}{2}\right]:\frac{5}{2}+\frac{1}{4}\right\}:\frac{17}{5}=$$

$$=\left\{\left[\frac{7}{5}\cdot\left(\frac{3}{5}\cdot\frac{5}{7}+1\right)\cdot 5\right]\cdot\frac{2}{5}+\frac{1}{4}\right\}\cdot\frac{5}{17}=$$

$$=\left\{\left[\frac{7}{5}\cdot\left(\frac{3}{7}+1\right)\cdot 5\right]\cdot\frac{2}{5}+\frac{1}{4}\right\}\cdot\frac{5}{17}=$$

$$=\left\{\left[\frac{7}{5}\cdot\frac{7+3}{7}\cdot 5\right]\cdot\frac{2}{5}+\frac{1}{4}\right\}\cdot\frac{5}{17}=$$

$$=\left\{\left[\frac{7}{5}\cdot\frac{10}{7}\cdot 5\right]\cdot\frac{2}{5}+\frac{1}{4}\right\}\cdot\frac{5}{17}=$$

$$=\left\{10\cdot\frac{2}{5}+\frac{1}{4}\right\}\cdot\frac{5}{17}=$$

$$=\left\{4+\frac{1}{4}\right\}\cdot\frac{5}{17}=$$

$$=\left\{\frac{16+1}{4}\right\}\cdot\frac{5}{17}=$$

$$=\frac{17}{4}\cdot\frac{5}{17}=\frac{5}{4}$$

$$2+\left[\left(\frac{8}{5}-\frac{3}{2}\right)+\left(\frac{4}{3}-1\right)\right]:\frac{26}{5}=$$

$$=2+\left[\left(\frac{16-15}{10}\right)+\left(\frac{4-3}{3}\right)\right]\cdot\frac{5}{26}=$$

$$=2+\left[\frac{1}{10}+\frac{1}{3}\right]\cdot\frac{5}{26}=$$

$$=2+\left[\frac{3+10}{30}\right]\cdot\frac{5}{26}=$$

$$=2+\frac{\cancel{13}}{\cancel{30}_{6}}\cdot\frac{\cancel{5}}{\cancel{26}_{2}}=$$

$$=2+\frac{1}{12}=$$

$$=\frac{24+1}{12}=\frac{25}{12}$$

$$\frac{22}{15}\cdot\left[\frac{5}{6}+\left(10+\frac{1}{2}\right):\frac{7}{10}-\frac{1}{3}\cdot\frac{5}{2}\right]+\frac{3}{7}\cdot\frac{14}{12}=$$

$$=\frac{22}{15}\cdot\left[\frac{5}{6}+\left(\frac{20+1}{2}\right)\cdot\frac{10}{7}-\frac{5}{6}\right]+\frac{2}{4}=$$

$$NB\ \frac{5}{6}-\frac{5}{6}=0$$

$$=\frac{22}{15}\cdot\left[\cancel{\frac{5}{6}}+\frac{21}{2}\cdot\frac{10}{7}-\cancel{\frac{5}{6}}\right]+\frac{1}{2}=$$

$$=\frac{22}{15}\cdot\left[\frac{21}{2}\cdot\frac{10}{7}\right]+\frac{1}{2}=$$

$$=\frac{22}{15}\cdot 15+\frac{1}{2}=$$

$$=22+\frac{1}{2}=$$

$$=\frac{44+1}{2}=\frac{45}{2}$$

$$\left[\left(\frac{14}{3}+\frac{17}{9}\right):\frac{59}{9}+\left(\frac{31}{9}+\frac{2}{3}\right)\right]:\left(1+\frac{37}{9}\right)=$$

$$=\left[\left(\frac{42+17}{9}\right):\frac{59}{9}+\left(\frac{31+6}{9}\right)\right]:\left(\frac{9+37}{9}\right)=$$

$$=\left[\frac{59}{9}\cdot\frac{9}{59}+\frac{37}{9}\right]\cdot\frac{9}{46}=$$

$$=\left[1+\frac{37}{9}\right]\cdot\frac{9}{46}=$$

$$=\frac{46}{9}\cdot\frac{9}{46}=1$$

$$\left[\left(2-\frac{4}{10}\right)\cdot\frac{3}{4}-\left(\frac{13}{20}-\frac{6}{10}\right):\frac{3}{4}\right]:\left(\frac{5}{4}-\frac{11}{12}\right)=$$

$$=\left[\left(2-\frac{2}{5}\right)\cdot\frac{3}{4}-\left(\frac{13}{20}-\frac{3}{5}\right):\frac{3}{4}\right]:\left(\frac{5}{4}-\frac{11}{12}\right)=$$

$$=\left[\left(\frac{10-2}{5}\right)\cdot\frac{3}{4}-\left(\frac{13-12}{20}\right)\cdot\frac{4}{3}\right]:\left(\frac{15-11}{12}\right)=$$

$$=\left[\frac{8}{5}\cdot\frac{3}{4}-\frac{1}{20}\cdot\frac{4}{3}\right]:\frac{4}{12}=$$

$$=\left[\frac{6}{5}-\frac{1}{15}\right]:\frac{1}{3}=$$

$$=\left[\frac{18-1}{15}\right]\cdot\frac{3}{1}=$$

$$=\frac{17}{15}\cdot\frac{3}{1}=\frac{17}{5}$$

Keywords

Matematica, Aritmetica, Frazioni, Espressioni Q, addizione, sottrazione, moltiplicazione, divisione, esercizi con soluzioni
Math, Arithmetic, Fraction expressions, Fraction, Expression, Addition, Subtraction, Multiplication, Division, Fraction expressions solved
Matemática, Aritmética, Fracción, Expresiones, Resta, Sustracción, Suma, Adición, Multiplicación, División
Mathématique, Arithmétique, Fraction, Problèmes avec fractions, Addition, Soustraction, *Multiplication, Division*
Mathematik, Arithmetik, Bruchrechnung, Bruch, Subtraktion, Addition, Multiplikation, Division

Arabic: كَسْر
Chinese (Simplified): 分数
Chinese (Traditional): 分數
Czech: zlomek
Danish: brøkdel
Dutch: deel, breuk
Estonian: murd(arv)
Finnish: murtoluku
French: fraction
Greek: κλάσμα
Hungarian: hányad, tört(rész)
Icelandic: brot
Indonesian: pecahan
Japanese: 分数
Korean: 분수
Lithuanian: trupmena
Norwegian: brøk(del)
Polish: ułamek
Portuguese (Brazil): fração
Portuguese (Portugal): fracção
Romanian: fracţie
Russian: дробь
Slovak: zlomok
Slovenian: ulomek
Swedish: del
Turkish: kesir