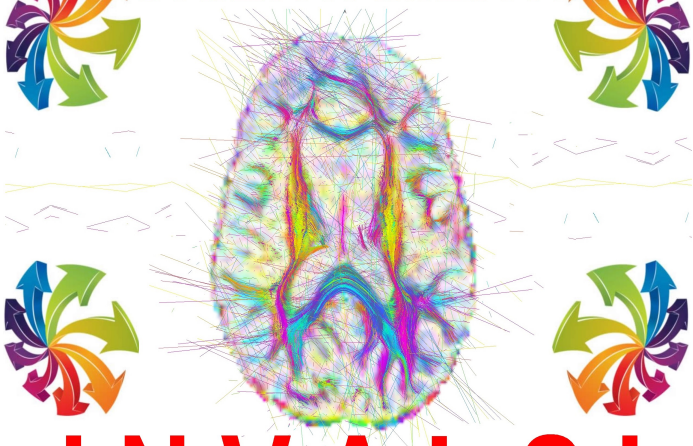
RISORSE DIDATTICHE.

【ResearchGate Project】 *By ... 0000-0001-5086-7401 & lnkd.in/erZ48tm*

ORIENTA*MENTI*



INVALSI

Espressioni con le quattro operazioni. Livello base. Completi di soluzione guidata.
Evaluating Expressions Involving Fractions – With solutions

1. $1+\frac{2}{3}\cdot\frac{1}{2}-\frac{1}{2}:\frac{3}{4}-\frac{1}{4}$ $\left[\frac{5}{12}\right]$ soluzione

2. $\frac{17}{3}\cdot\frac{1}{17}+7\cdot\frac{1}{14}$ $\left[\frac{5}{6}\right]$ soluzione

3. $\left[\left(\frac{1}{3}:\frac{6}{5}\right):\frac{1}{3}+\frac{1}{9}\right]:\frac{1}{3}+\frac{5}{6}$ $\left[\frac{11}{3}\right]$ soluzione

4. $\left[\left(\frac{1}{3}:\frac{6}{5}\right)\cdot\frac{1}{3}+\frac{1}{9}\right]:\frac{1}{9}+\frac{5}{6}$ $\left[\frac{8}{3}\right]$ soluzione

5. $\left[\left(\frac{1}{3}:6\right):\frac{1}{3}+\frac{1}{9}\right]:\frac{1}{3}-\frac{5}{6}+\frac{1}{2}$ $\left[\frac{1}{2}\right]$ soluzione

6. $\frac{9}{4}-\frac{16}{9}\cdot\frac{5}{6}:\left(1+\frac{1}{9}\right)+\frac{3}{8}-\frac{1}{24}$ $\left[\frac{5}{4}\right]$ soluzione

7. $1+\frac{1}{2}+\frac{1}{3}-\frac{1}{3}\cdot\left(2-\frac{3}{4}\right)$ $\left[\frac{17}{12}\right]$ soluzione

8. $1-\frac{1}{2}+\frac{1}{3}-\frac{1}{3}\cdot\left(2-\frac{5}{4}\right)$ $\left[\frac{7}{12}\right]$ soluzione

9. $\frac{3}{4}-\left(\frac{4}{3}+\frac{5}{2}\right)\cdot\frac{9}{46}$ [0] soluzione

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

11. $\left(3+\frac{1}{2}\right)\cdot\left(\frac{2}{3}-\frac{1}{3}-\frac{1}{7}\right)+\frac{1}{3}$ [1] soluzione

12. $\frac{1}{2}+\left[\left(\frac{1}{2}+\frac{1}{3}\right)\cdot\frac{4}{5}+\frac{1}{2}\right]\cdot\frac{4}{7}-\frac{1}{3}$ $\left[\frac{5}{6}\right]$ soluzione

13. $\left\{\frac{1}{2}+\left[\left(\frac{1}{2}+\frac{1}{3}\right)\cdot\frac{4}{5}+\frac{1}{2}\right]\right\}\cdot\frac{4}{5}-\frac{1}{2}$ $\left[\frac{5}{6}\right]$ soluzione

14. $\frac{1}{8}+\left(\frac{3}{14}+\frac{3}{7}\right)\cdot\frac{7}{12}$ $\left[\frac{1}{2}\right]$ soluzione

15. $\left(\frac{6}{7}-\frac{24}{35}\right):\left(\frac{1}{7}+\frac{1}{14}\right)\cdot\frac{5}{2}$ [2] soluzione

16. $\frac{5}{11}\cdot\left[1+\left(1-\frac{1}{12}\cdot\frac{21}{5}\right)\right]\cdot\frac{8}{10}-\frac{1}{2}$ $\left[\frac{1}{10}\right]$ soluzione

17. $1-\left[\left(\frac{3}{5}+\frac{2}{3}:\frac{4}{3}\right)\cdot\frac{10}{3}-2\right]:\left(1+\frac{2}{3}\right)$ [0] soluzione

18. $\left(\frac{1}{4}\cdot\frac{5}{2}-\frac{3}{2}\cdot\frac{1}{4}\right)\cdot\left(\frac{6}{3}\cdot\frac{5}{4}+1\right):\left(\frac{6}{10}\cdot\frac{5}{2}+1\right)$ $\left[\frac{7}{20}\right]$ soluzione

19. $\left(\frac{1}{7}-\frac{1}{14}\right):\left[\left(\frac{1}{5}:\frac{7}{3}+\frac{1}{7}\right)\cdot\left(\frac{3}{16}+\frac{1}{8}\right)\right]$ [1] soluzione

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

21. $\left[\left(\frac{2}{4}-\frac{1}{3}\right)\cdot\frac{3}{2}+\left(\frac{2}{6}-\frac{1}{4}\right)\cdot\left(1-\frac{2}{5}\right)\right]:\frac{6}{20}+1$ [2] soluzione

22. $\left\{\left[27:\left(1+\frac{3}{4}+\frac{3}{4}\cdot\frac{2}{3}\right)\right]\cdot\frac{3}{4}\right\}\cdot\frac{2}{3}$ [6] soluzione

Soluzioni

$$1+\frac{2}{3}\cdot\frac{1}{2}-\frac{1}{2}:\frac{3}{4}-\frac{1}{4}$$

Semplifico la moltiplicazione in croce il 2 e il 2 in 1 e 1, dividendo per 2.

$$=1+\frac{^{2}\cancel{2}}{3}\cdot\frac{1}{\cancel{2}_{1}}-\frac{1}{2}:\frac{3}{4}-\frac{1}{4}=$$

Trasformo la divisione in una moltiplicazione per il reciproco del divisore.

Semplifico la moltiplicazione in croce, il 4 e il 2 in 2 e 1 (M.C.D.(2, 4)=2).

$$=1+\frac{1}{3}-\frac{1}{_{1}\cancel{2}}\cdot\frac{\cancel{4}^{2}}{3}-\frac{1}{4}=$$

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

Cerco il m.c.m.(1, 3, 4)=12.

Applico l'algoritmo di calcolo per la somma e differenza di frazioni.

$$=\frac{12+4-8-3}{12}=\frac{5}{12}$$

$$\frac{17}{3}\cdot\frac{1}{17}+7\cdot\frac{1}{14}$$

$$=\frac{^{1}\cancel{17}}{3}\cdot\frac{1}{\cancel{17}_{1}}+\ ^{1}\cancel{7}\cdot\frac{1}{\cancel{14}_{2}}=$$

Semplifico la prima moltiplicazione in croce il 17 e il 17 in 1 e 1.

Semplifico la seconda moltiplicazione in croce il 7 e il 14 in 1 e 2 (M.C.D.(7, 14)=2).

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

Cerco il m.c.m.(3, 2)=6.

Applico l'algoritmo di calcolo per la somma e differenza di frazioni.

$$=\frac{3+2}{6}=\frac{5}{6}$$

$$\left[\left(\frac{1}{3}:\frac{6}{5}\right):\frac{1}{3}+\frac{1}{9}\right]:\frac{1}{3}+\frac{5}{6}=$$

Trasformo le divisioni in moltiplicazioni per il reciproco del divisore.

$$=\left[\left(\frac{1}{3}\cdot\frac{5}{6}\right)\cdot\frac{3}{1}+\frac{1}{9}\right]\cdot\frac{3}{1}+\frac{5}{6}=$$

Non essendo possibile semplificare "in croce" trovo il numeratore come prodotto dei numeratori e il denominatore come prodotto dei denominatori.

$$=\left[\frac{5}{18}\cdot\frac{3}{1}+\frac{1}{9}\right]\cdot\frac{3}{1}+\frac{5}{6}=$$

Semplifico la moltiplicazione in croce il 3 e il 18 in 1 e 6 (M.C.D.(3, 18)=3).

$$=\left[\frac{5}{6}+\frac{1}{9}\right]\cdot\frac{3}{1}+\frac{5}{6}=$$

Cerco il m.c.m.(6, 9)=18.

Applico l'algoritmo di calcolo per la somma e differenza di frazioni.

$$=\frac{15+2}{18}\cdot\frac{3}{1}+\frac{5}{6}=$$

Semplifico la moltiplicazione in croce il 3 e il 18 in 1 e 6 (M.C.D.(3, 18)=3).

$$=\frac{17}{{}_{6}\cancel{18}}\cdot\frac{\cancel{3}^{1}}{1}+\frac{5}{6}=$$

$$=\frac{17}{6}+\frac{5}{6}=$$

Applico l'algoritmo di calcolo per la somma e differenza di frazioni con lo stesso numeratore.

$$=\frac{17+5}{6}=\frac{22}{6}$$

La frazione è riducibile (M.C.D.(22, 6)=2).

$$=\frac{11}{3}$$

grazie a Giulia C. per la segnalazione 5/7/2010

$$\left[\left(\frac{1}{3}:\frac{6}{5}\right)\cdot\frac{1}{3}+\frac{1}{9}\right]:\frac{1}{9}+\frac{5}{6}=$$

Trasformo le divisioni in moltiplicazioni per il reciproco del divisore.

$$=\left[\left(\frac{1}{3}\cdot\frac{5}{6}\right)\cdot\frac{1}{3}+\frac{1}{9}\right]\cdot\frac{9}{1}+\frac{5}{6}=$$

Non essendo possibile semplificare "in croce" trovo il numeratore come prodotto dei numeratori e il denominatore come prodotto dei denominatori.

$$=\left[\frac{5}{18}\cdot\frac{1}{3}+\frac{1}{9}\right]\cdot 9+\frac{5}{6}=$$

$$=\left[\frac{5}{54}+\frac{1}{9}\right]\cdot 9+\frac{5}{6}=$$

Cerco il m.c.m.(9, 54)=54.

Applico l'algoritmo di calcolo per la somma e differenza di frazioni.

$$=\left[\frac{5+6}{54}\right]\cdot 9+\frac{5}{6}=$$

$$=\frac{11}{54}\cdot 9+\frac{5}{6}=$$

Semplifico la moltiplicazione in croce il 9 e il 54 in 1 e 6 (M.C.D.(9, 54)=9).

$$=\frac{11}{6}+\frac{5}{6}=$$

Applico l'algoritmo di calcolo per la somma e differenza di frazioni con lo stesso numeratore.

$$=\frac{11+5}{6}=$$

$$=\frac{16}{6}=$$

La frazione è riducibile (M.C.D.(16, 6)=2).

$$=\frac{8}{3}$$

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

Trasformo le divisioni in moltiplicazioni per il reciproco del divisore.

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

Non essendo possibile semplificare “in croce” eseguo trovo il numeratore come prodotto dei numeratori e il denominatore come prodotto dei denominatori.

$$=\left[\frac{1}{6}+\frac{1}{9}\right]\cdot\frac{3}{1}-\frac{5}{6}+\frac{1}{2}=$$

Cerco il m.c.m.(6, 9)=18.

Applico l’algoritmo di calcolo per la somma e differenza di frazioni.

$$=\left[\frac{3+2}{18}\right]\cdot\frac{3}{1}-\frac{5}{6}+\frac{1}{2}=$$

$$=\frac{5}{18}\cdot\frac{3}{1}-\frac{5}{6}+\frac{1}{2}=$$

Semplifico la moltiplicazione in croce il 3 e il 18 in 1 e 6 (M.C.D.(3, 18)=3).

$$=\frac{5}{6}-\frac{5}{6}+\frac{1}{2}=$$

Le differenza tra due frazioni uguali è 0 e posso non tenerne conto.

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

$$\frac{9}{4}-\frac{16}{9}\cdot\frac{5}{6}:\left(1+\frac{1}{9}\right)+\frac{3}{8}-\frac{1}{24}=$$
$$=\frac{9}{4}-\frac{8}{9}\cdot\frac{5}{3}:\left(\frac{9+1}{9}\right)+\frac{3}{8}-\frac{1}{24}=$$
$$=\frac{9}{4}-\frac{8}{9}\cdot\frac{5}{3}\cdot\frac{9}{10}+\frac{3}{8}-\frac{1}{24}=$$
$$=\frac{9}{4}-\frac{8}{1}\cdot\frac{1}{3}\cdot\frac{1}{2}+\frac{3}{8}-\frac{1}{24}=$$
$$=\frac{9}{4}-\frac{4}{3}+\frac{3}{8}-\frac{1}{24}=$$
$$=\frac{54-32+9-1}{24}=$$
$$=\frac{30}{24}=\frac{5}{4}$$

$$1+\frac{1}{2}+\frac{1}{3}-\frac{1}{3}\cdot\left(2-\frac{3}{4}\right)=$$
$$=1+\frac{1}{2}+\frac{1}{3}-\frac{1}{3}\cdot\left(\frac{8-3}{4}\right)=$$
$$=1+\frac{1}{2}+\frac{1}{3}-\frac{1}{3}\cdot\frac{5}{4}=$$
$$=1+\frac{1}{2}+\frac{1}{3}-\frac{5}{12}=$$
$$=\frac{12+6+4-5}{12}=\frac{17}{12}$$

Grazie a Paolo Giovanni Z. per la segnalazione del 3.12.2008

$$1-\frac{1}{2}+\frac{1}{3}-\frac{1}{3}\cdot\left(2-\frac{5}{4}\right)=$$
$$=1-\frac{1}{2}+\frac{1}{3}-\frac{1}{3}\cdot\left(\frac{8-5}{4}\right)=$$
$$=1-\frac{1}{2}+\frac{1}{3}-\frac{1}{3}\cdot\frac{3}{4}=$$
$$=1-\frac{1}{2}+\frac{1}{3}-\frac{1}{4}=$$
$$=\frac{12-6+4-3}{12}=\frac{7}{12}$$

$$\frac{3}{4}-\left(\frac{4}{3}+\frac{5}{2}\right)\cdot\frac{9}{46}=$$
$$=\frac{3}{4}-\frac{8+15}{6}\cdot\frac{9}{46}=$$
$$=\frac{3}{4}-\frac{23}{6}\cdot\frac{9}{46}=$$
$$=\frac{3}{4}-\frac{1}{2}\cdot\frac{3}{2}=$$
$$=\frac{3}{4}-\frac{3}{4}=0$$

$$\frac{5}{3}-\left(\frac{7}{2}-\frac{4}{5}\right)\cdot\left(\frac{1}{3}+\frac{2}{9}\right)=$$
$$=\frac{5}{3}-\frac{35-8}{10}\cdot\frac{3+2}{9}=$$
$$=\frac{5}{3}-\frac{27}{10}\cdot\frac{5}{9}=$$
$$=\frac{5}{3}-\frac{3}{2}=$$
$$=\frac{10-9}{6}=\frac{1}{6}$$

$$\left(3+\frac{1}{2}\right)\cdot\left(\frac{2}{3}-\frac{1}{3}-\frac{1}{7}\right)+\frac{1}{3}=$$
$$=\frac{6+1}{2}\cdot\frac{14-7-3}{21}+\frac{1}{3}=$$
$$=\frac{7}{2}\cdot\frac{4}{21}+\frac{1}{3}=$$
$$=\frac{2}{3}+\frac{1}{3}=\frac{3}{3}=1$$

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

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

$$=\left\{\frac{1}{2}+\left[\frac{3+2}{6}\cdot\frac{4}{5}+\frac{1}{2}\right]\right\}\cdot\frac{4}{5}-\frac{1}{2}=$$

$$=\left\{\frac{1}{2}+\left[\frac{5}{6}\cdot\frac{4}{5}+\frac{1}{2}\right]\right\}\cdot\frac{4}{5}-\frac{1}{2}=$$

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

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

$$=\left\{\frac{1}{2}+\frac{7}{6}\right\}\cdot\frac{4}{5}-\frac{1}{2}=$$

$$=\left\{\frac{1}{2}+\frac{7}{6}\right\}\cdot\frac{4}{5}-\frac{1}{2}=$$

$$=\frac{3+7}{6}\cdot\frac{4}{5}-\frac{1}{2}=$$

$$=\frac{10}{6}\cdot\frac{4}{5}-\frac{1}{2}=$$

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

$$=\frac{8-3}{6}=\frac{5}{6}$$

$$\frac{1}{8}+\left(\frac{3}{14}+\frac{3}{7}\right)\cdot\frac{7}{12}=$$
$$=\frac{1}{8}+\left(\frac{3+6}{14}\right)\cdot\frac{7}{12}=$$
$$=\frac{1}{8}+\frac{9}{14}\cdot\frac{7}{12}=$$
$$=\frac{1}{8}+\frac{9}{2}\cdot\frac{1}{12}=$$
$$=\frac{1}{8}+\frac{3}{2}\cdot\frac{1}{4}=$$
$$=\frac{1}{8}+\frac{3}{8}=$$
$$=\frac{4}{8}=\frac{1}{2}$$

$$\left(\frac{6}{7}-\frac{24}{35}\right):\left(\frac{1}{7}+\frac{1}{14}\right)\cdot\frac{5}{2}$$
$$=\left(\frac{30-24}{35}\right):\left(\frac{1}{7}+\frac{1}{14}\right)\cdot\frac{5}{2}=$$
$$=\frac{6}{35}:\left(\frac{2+1}{14}\right)\cdot\frac{5}{2}=$$
$$=\frac{6}{35}:\frac{3}{14}\cdot\frac{5}{2}=$$
$$=\frac{6}{35}\cdot\frac{14}{3}\cdot\frac{5}{2}=$$
$$=\frac{6}{\cancel{35}_{\cancel{5}}}\cdot\frac{\cancel{14}^{2}}{3}\cdot\frac{5}{\cancel{2}_{1}}=$$
$$=\frac{6}{3}=2$$

$$\frac{5}{11}\cdot\left[1+\left(1-\frac{1}{12}\cdot\frac{21}{5}\right)\right]\cdot\frac{8}{10}-\frac{1}{2}=$$
$$=\frac{5}{11}\cdot\left[1+\left(1-\frac{1}{4}\cdot\frac{7}{5}\right)\right]\cdot\frac{4}{5}-\frac{1}{2}=$$
$$=\frac{5}{11}\cdot\left[1+\left(1-\frac{7}{20}\right)\right]\cdot\frac{4}{5}-\frac{1}{2}=$$
$$=\frac{5}{11}\cdot\left[1+\frac{13}{20}\right]\cdot\frac{4}{5}-\frac{1}{2}=$$
$$=\frac{5}{11}\cdot\frac{33}{20}\cdot\frac{4}{5}-\frac{1}{2}=$$
$$=\frac{1}{1}\cdot\frac{3}{5}\cdot\frac{1}{1}-\frac{1}{2}=$$
$$=\frac{3}{5}-\frac{1}{2}=$$
$$=\frac{6-5}{10}=\frac{1}{10}$$

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

$$\left(\frac{1}{4}\cdot\frac{5}{2}-\frac{3}{2}\cdot\frac{1}{4}\right)\cdot\left(\frac{6}{3}\cdot\frac{5}{4}+1\right):\left(\frac{6}{10}\cdot\frac{5}{2}+1\right)=$$
$$=\left(\frac{5}{8}-\frac{3}{8}\right)\cdot\left(\frac{5}{2}+1\right):\left(\frac{3}{2}+1\right)=$$
$$=\frac{\cancel{2}}{8}\cdot\frac{7}{\cancel{2}}:\frac{5}{2}=$$
$$=\frac{7}{8}\cdot\frac{2}{5}=\frac{7}{20}$$

$$\left(\frac{1}{7}-\frac{1}{14}\right):\left[\left(\frac{1}{5}:\frac{7}{3}+\frac{1}{7}\right)\cdot\left(\frac{3}{16}+\frac{1}{8}\right)\right]=$$
$$=\left(\frac{2-1}{14}\right):\left[\left(\frac{1}{5}\cdot\frac{3}{7}+\frac{1}{7}\right)\cdot\left(\frac{3+2}{16}\right)\right]=$$
$$=\frac{1}{14}:\left[\left(\frac{3}{35}+\frac{1}{7}\right)\cdot\frac{5}{16}\right]=$$
$$=\frac{1}{14}:\left[\left(\frac{3+5}{35}\right)\cdot\frac{5}{16}\right]=$$
$$=\frac{1}{14}:\left[\frac{8}{35}\cdot\frac{5}{16}\right]=$$
$$=\frac{1}{14}:\left[\frac{1}{7}\cdot\frac{1}{2}\right]=$$
$$=\frac{1}{14}:\frac{1}{14}=1$$

$$\left\{\left[\left(\frac{3}{4}-\frac{2}{5}\right)\div\frac{8}{7}+\left(1-\frac{1}{2}\right)\right]:\frac{3}{5}\right\}:\left(1+\frac{1}{2}\right)+2=$$
$$=\left\{\left[\left(\frac{15-8}{20}\right)\cdot\frac{8}{7}+\frac{1}{2}\right]\cdot\frac{5}{3}\right\}:\left(\frac{2+1}{2}\right)+2=$$
$$=\left\{\left[\frac{7}{20}\cdot\frac{8}{7}+\frac{1}{2}\right]\cdot\frac{5}{3}\right\}:\frac{3}{2}+2=$$
$$=\left\{\left[\frac{2}{5}+\frac{1}{2}\right]\cdot\frac{5}{3}\right\}\cdot\frac{2}{3}+2=$$
$$=\left\{\frac{4+5}{10}\cdot\frac{5}{3}\right\}\cdot\frac{2}{3}+2=$$
$$=\left\{\frac{9}{10}\cdot\frac{5}{3}\right\}\cdot\frac{2}{3}+2=$$
$$=\frac{3}{2}\cdot\frac{2}{3}+2=$$
$$=1+2=3$$

$$\left[\left(\frac{2}{4}-\frac{1}{3}\right)\cdot\frac{3}{2}+\left(\frac{2}{6}-\frac{1}{4}\right)\cdot\left(1-\frac{2}{5}\right)\right]:\frac{6}{20}+1=$$
$$\left[\left(\frac{2}{4}-\frac{1}{3}\right)\cdot\frac{3}{2}+\left(\frac{2}{6}-\frac{1}{4}\right)\cdot\left(1-\frac{2}{5}\right)\right]:\frac{6}{20}+1=$$
$$=\left[\left(\frac{1}{2}-\frac{1}{3}\right)\cdot\frac{3}{2}+\left(\frac{1}{3}-\frac{1}{4}\right)\cdot\left(\frac{5-2}{5}\right)\right]:\frac{3}{10}+1=$$
$$=\left[\left(\frac{3-2}{6}\right)\cdot\frac{3}{2}+\left(\frac{4-3}{12}\right)\cdot\frac{3}{5}\right]\cdot\frac{10}{3}+1=$$
$$=\left[\frac{1}{6}\cdot\frac{3}{2}+\frac{1}{12}\cdot\frac{3}{5}\right]\cdot\frac{10}{3}+1=$$
$$=\left[\frac{1}{4}+\frac{1}{20}\right]\cdot\frac{3}{5}+1=$$
$$=\left[\frac{5+1}{20}\right]\cdot\frac{10}{3}+1=$$
$$=\frac{6}{20}\cdot\frac{10}{3}+1=$$
$$=\frac{3}{10}\cdot\frac{10}{3}+1=$$
$$=1+1=2$$

$$\left\{\left[27:\left(1+\frac{3}{4}+\frac{3}{4}\cdot\frac{2}{3}\right)\right]\cdot\frac{3}{4}\right\}\cdot\frac{2}{3}=$$
$$=\left\{\left[27:\left(1+\frac{3}{4}+\frac{1}{2}\right)\right]\cdot\frac{3}{4}\right\}\cdot\frac{2}{3}=$$
$$=\left\{\left[27:\frac{4+3+2}{4}\right]\cdot\frac{3}{4}\right\}\cdot\frac{2}{3}=$$
$$=\left\{\left[27:\frac{9}{4}\right]\cdot\frac{3}{4}\right\}\cdot\frac{2}{3}=$$
$$=\left\{27\cdot\frac{4}{9}\cdot\frac{3}{4}\right\}\cdot\frac{2}{3}=$$
$$=\left\{3\cdot4\cdot\frac{3}{4}\right\}\cdot\frac{2}{3}=$$
$$=\{3\cdot3\}\cdot\frac{2}{3}=3\cdot2=6$$

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

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Espressioni con frazioni, addizioni e sottrazioni. Completi di soluzione guidata.
Evaluating Expressions Involving Fractions (Addition and Subtraction) – With solutions

1. $1-\left(1-\frac{1}{2}\right)-\left(1-\frac{1}{3}\right)$ soluzione

2. $3-\left\{\frac{5}{7}+\left[1-\left(\frac{1}{2}-\frac{1}{7}\right)\right]-\left[2-\left(\frac{1}{2}+\frac{1}{7}\right)\right]\right\}$ soluzione

3. $1-\left\{\left[\left(\frac{5}{4}-1\right)+\frac{3}{4}\right]-\left[\left(\frac{5}{4}-\frac{6}{7}-\frac{3}{14}\right)+\frac{6}{28}-\left(\frac{2}{21}+\frac{3}{7}-\frac{1}{3}\right)\right]\right\}$ $\left[\frac{17}{84}\right]$ soluzione

4. $\frac{13}{4}-\left[\frac{3}{2}+\frac{3}{4}-\left(1-\frac{1}{2}\right)-\left(2-\frac{3}{5}\right)\right]$ $\left[\frac{29}{10}\right]$ soluzione

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

6. $\left(1+\frac{1}{2}\right)-\left(1+\frac{1}{4}-\frac{1}{3}\right)-\left(\frac{1}{6}-\frac{1}{12}\right)+\left(\frac{1}{5}+\frac{1}{10}\right)$ $\left[\frac{4}{5}\right]$ soluzione

7. $\left\{\frac{5}{4}+\left[\left(\frac{2}{3}+\frac{3}{5}-\frac{1}{6}\right)-\left(\frac{13}{10}-\frac{13}{12}\right)\right]\right\}+\frac{1}{5}$ $\left[\frac{7}{3}\right]$ soluzione

8. $\left(\frac{2}{3}+\frac{3}{4}\right)+\left(\frac{1}{2}+\frac{1}{3}\right)-\left(1+\frac{1}{4}\right)$ [1] soluzione

9. $\left(1-\frac{1}{3}\right)+\left(1-\frac{3}{4}\right)-\left(1-\frac{5}{6}\right)$ $\left[\frac{5}{6}\right]$ soluzione

10. $\left(\frac{3}{4}+\frac{1}{2}\right)-\left(\frac{1}{2}-\frac{1}{3}\right)-\left(1-\frac{1}{4}\right)$ $\left[\frac{1}{3}\right]$ soluzione

11. $\left(3+\frac{1}{4}\right)-\left(\frac{9}{4}-\frac{5}{8}-\frac{1}{2}\right)-\left(1-\frac{7}{8}\right)$ [2] soluzione

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

13. $\left(2-\frac{1}{5}\right)-\left[\left(\frac{3}{2}+\frac{4}{5}-\frac{1}{4}\right)-\left(\frac{9}{10}+\frac{1}{2}-1\right)\right]$ $\left[\frac{33}{20}\right]$

soluzione

14. $\left\{\left(1-\frac{1}{5}\right)-\left[1-\left(\frac{1}{10}+\frac{1}{2}\right)\right]\right\}+\frac{3}{2}$ $\left[\frac{19}{10}\right]$
soluzione

15. $\left\{\frac{1}{4}+\left(1-\frac{1}{2}\right)-\left[1-\left(\frac{5}{6}-\frac{2}{12}\right)\right]\right\}-\left(\frac{3}{4}-\frac{5}{8}\right)$ $\left[\frac{7}{24}\right]$
soluzione

16. $1-\left\{\frac{1}{2}-\left[\frac{2}{5}-\frac{1}{5}+1-\left(\frac{14}{7}-\frac{9}{6}+\frac{5}{10}\right)\right]\right\}-\left(1-\frac{3}{10}\right)$ [0]
soluzione

17. $\left[\left(1+\frac{6}{8}\right)+\frac{5}{12}-\frac{11}{12}\right]+\left(\frac{5}{3}-\frac{9}{12}\right)-\left(\frac{1}{2}+\frac{4}{6}\right)$ [1]
soluzione

18. $\left[\left(1+\frac{1}{4}-\frac{1}{2}\right)+\left(1+\frac{1}{6}\right)\right]+\left(\frac{5}{3}-\frac{1}{2}+1\right)$ $\left[\frac{49}{12}\right]$
soluzione

19. $\frac{17}{14}-\left[\left(\frac{3}{2}+\frac{3}{4}-\frac{6}{7}+\frac{1}{14}\right)-\left(1-\frac{1}{2}\right)\right]-\frac{1}{7}$ $\left[\frac{3}{28}\right]$
soluzione

20. $\left[\left(1-\frac{8}{9}\right)-\frac{1}{18}\right]+\left(1-\frac{1}{6}\right)-\left(1-\frac{8}{9}\right)$ $\left[\frac{7}{9}\right]$
soluzione

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

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

23. $\left(2-\frac{1}{3}\right)-\left\{\frac{7}{3}-\left[\frac{4}{3}-\left(\frac{3}{2}-\frac{1}{3}\right)\right]-1+\frac{1}{3}\right\}$ $\left[\frac{1}{6}\right]$
soluzione

24. $\left\{\frac{5}{6}-\left[\frac{2}{3}+\left(\frac{3}{4}-\frac{4}{9}\right)-\left(1-\frac{7}{12}\right)\right]+\left(1-\frac{1}{4}\right)\right\}-1$ $\left[\frac{1}{36}\right]$
soluzione

25. $\left[\left(1-\frac{1}{4}-\frac{1}{2}\right)+\left(1+\frac{1}{6}\right)\right]-\left(\frac{5}{3}-\frac{1}{3}-\frac{1}{6}\right)$ $\left[\frac{1}{4}\right]$
soluzione

26. $\left[\left(1+\frac{1}{4}-\frac{1}{2}\right)+\left(1+\frac{1}{6}\right)\right]-\left(\frac{5}{3}-\frac{1}{3}-\frac{1}{6}\right)$ $\left[\frac{3}{4}\right]$
soluzione

27. $1-\left\{\left[\left(1+\frac{1}{5}\right)-\left(1-\frac{4}{5}\right)\right]-\left[\left(1+\frac{1}{4}\right)-\left(1-\frac{1}{3}\right)\right]\right\}$ $\left[\frac{7}{12}\right]$
soluzione

28. $\left(\frac{1}{2}+\left(\frac{1}{2}+\left(\frac{1}{2}+\frac{1}{3}\right)\cdot\frac{4}{5}\right)\right)\cdot\frac{4}{9}-\frac{1}{2}$ $\left[\frac{13}{54}\right]$
soluzione

29. $3-\left\{1+\left[1-\left(\frac{2}{4}-\frac{7}{49}\right)\right]-\left[2-\left(\frac{2}{4}+\frac{7}{49}\right)\right]\right\}$ $\left[\frac{19}{7}\right]$
soluzione

Soluzioni

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

Risolvo prima le parentesi rotonde

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

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

m.c.m.(2, 3) = 6

$$=\frac{12-3-4}{6}=\frac{5}{6}$$

$$3-\left\{\frac{5}{7}+\left[1-\left(\frac{2}{4}-\frac{7}{49}\right)\right]-\left[2-\left(\frac{2}{4}+\frac{7}{49}\right)\right]\right\}$$

Semplifico 2/4 in 1/2 e 7/49 in 1/7

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

m.c.m.(2, 7) = 14

$$=3-\left\{\frac{5}{7}+\left[1-\frac{7-2}{14}\right]-\left[2-\frac{7+2}{14}\right]\right\}=$$

$$=3-\left\{\frac{5}{7}+\left[1-\frac{5}{14}\right]-\left[2-\frac{9}{14}\right]\right\}=$$

$$=3-\left\{\frac{5}{7}+\left[\frac{14-5}{14}\right]-\left[\frac{28-9}{14}\right]\right\}=$$

$$=3-\left\{\frac{5}{7}+\frac{9}{14}-\frac{19}{14}\right\}=$$

m.c.m.(7, 14) = 14

$$=3-\frac{10+9-19}{14}=$$

$$=3-\frac{0}{14}=$$

Ricorda che non è possibile dividere per 0 ma che 0:14 = 0

$$=3-0=3$$

$$1-\left\{\left[\left(\frac{5}{4}-1\right)+\frac{3}{4}\right]-\left[\left(\frac{5}{4}-\frac{6}{7}-\frac{3}{14}\right)+\frac{6}{28}-\left(\frac{2}{21}+\frac{3}{7}-\frac{1}{3}\right)\right]\right\}=$$

$$=1-\left\{\left[\frac{5-4}{4}+\frac{3}{4}\right]-\left[\left(\frac{35-24-6}{28}\right)+\frac{3}{14}-\left(\frac{2+9-7}{21}\right)\right]\right\}=$$

$$=1-\left\{\left[\frac{1}{4}+\frac{3}{4}\right]-\left[\frac{5}{28}+\frac{3}{14}-\frac{4}{21}\right]\right\}=$$

$$=1-\left\{\left[\frac{1+3}{4}\right]-\frac{15+18-16}{84}\right\}=$$

$$=1-\left\{\frac{4}{4}-\frac{15+18-16}{84}\right\}=$$

$$=1-\left\{1-\frac{17}{84}\right\}=$$

$$=1-\frac{84-17}{84}=$$

$$=1-\frac{67}{84}=$$

$$=\frac{84-67}{84}=\frac{17}{84}$$

$$\frac{13}{4}-\left[\frac{3}{2}+\frac{3}{4}-\left(1-\frac{1}{2}\right)-\left(2-\frac{3}{5}\right)\right]=$$

$$=\frac{13}{4}-\left[\frac{3}{2}+\frac{3}{4}-\frac{2-1}{2}-\frac{10-3}{5}\right]=$$

$$=\frac{13}{4}-\left[\frac{3}{2}+\frac{3}{4}-\frac{1}{2}-\frac{7}{5}\right]=$$

$$=\frac{13}{4}-\left[\frac{30+15-10-28}{20}\right]=$$

$$=\frac{13}{4}-\frac{7}{20}=$$

$$=\frac{65-7}{20}=$$

$$=\frac{58}{20}=\frac{29}{10}$$

$$\frac{7}{2}-\frac{1}{4}+\frac{4}{3}-\left[1-\left(\frac{1}{3}+\frac{3}{4}-\frac{1}{2}\right)\right]-\left(1-\frac{3}{9}\right)=$$
$$=\frac{7}{2}-\frac{1}{4}+\frac{4}{3}-\left[1-\left(\frac{4+9-6}{12}\right)\right]-\left(\frac{9-3}{9}\right)=$$
$$=\frac{7}{2}-\frac{1}{4}+\frac{4}{3}-\left[1-\frac{7}{12}\right]-\frac{6}{9}=$$
$$=\frac{7}{2}-\frac{1}{4}+\frac{4}{3}-\left[\frac{12-7}{12}\right]-\frac{2}{3}=$$
$$=\frac{7}{2}-\frac{1}{4}+\frac{4}{3}-\frac{5}{12}-\frac{2}{3}=$$
$$=\frac{42-3+16-5-8}{12}=$$
$$=\frac{42}{12}=\frac{7}{2}$$

$$\left(1+\frac{1}{2}\right)-\left(1+\frac{1}{4}-\frac{1}{3}\right)-\left(\frac{1}{6}-\frac{1}{12}\right)+\left(\frac{1}{5}+\frac{1}{10}\right)=$$
$$=\frac{2+1}{2}-\frac{12+3-4}{12}-\frac{2-1}{12}+\frac{2+1}{10}=$$
$$=\frac{3}{2}-\frac{11}{12}-\frac{1}{12}+\frac{3}{10}=$$
$$=\frac{90-55-5+183}{60}=$$
$$=\frac{48}{60}=\frac{8}{10}=\frac{4}{5}$$

$$\left\{\frac{5}{4}+\left[\left(\frac{2}{3}+\frac{3}{5}-\frac{1}{6}\right)-\left(\frac{13}{10}-\frac{13}{12}\right)\right]\right\}+\frac{1}{5}=$$
$$=\left\{\frac{5}{4}+\left[\frac{20+18-5}{30}-\frac{78-65}{60}\right]\right\}+\frac{1}{5}=$$
$$=\left\{\frac{5}{4}+\left[\frac{33}{30}-\frac{13}{60}\right]\right\}+\frac{1}{5}=$$
$$=\left\{\frac{5}{4}+\left[\frac{66-13}{60}\right]\right\}+\frac{1}{5}=$$
$$=\left\{\frac{5}{4}+\frac{53}{60}\right\}+\frac{1}{5}=$$
$$=\frac{75+53}{60}+\frac{1}{5}=$$
$$=\frac{128}{60}+\frac{1}{5}=$$
$$=\frac{32}{15}+\frac{1}{5}=$$
$$=\frac{32+3}{15}=\frac{35}{15}=\frac{7}{3}$$

$$\left(\frac{2}{3}+\frac{3}{4}\right)+\left(\frac{1}{2}+\frac{1}{3}\right)-\left(1+\frac{1}{4}\right)=$$
$$=\frac{8+9}{12}+\frac{3+2}{6}-\frac{4+1}{4}=$$
$$=\frac{17}{12}+\frac{5}{6}-\frac{5}{4}=$$
$$=\frac{17+10-15}{12}=\frac{12}{12}=1$$

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

$$\left(\frac{3}{4}+\frac{1}{2}\right)-\left(\frac{1}{2}-\frac{1}{3}\right)-\left(1-\frac{1}{4}\right)=$$
$$=\frac{3+2}{4}-\frac{3-2}{6}-\frac{4-1}{4}=$$
$$=\frac{5}{4}-\frac{1}{6}-\frac{3}{4}=$$
$$=\frac{15-2-9}{12}=\frac{4}{12}=\frac{1}{3}$$

$$\left(3+\frac{1}{4}\right)-\left(\frac{9}{4}-\frac{5}{8}-\frac{1}{2}\right)-\left(1-\frac{7}{8}\right)=$$
$$=\frac{12+1}{4}-\frac{18-5-3}{8}-\frac{8-7}{8}=$$
$$=\frac{13}{4}-\frac{9}{8}-\frac{1}{8}=$$
$$=\frac{26-9-1}{8}=\frac{16}{8}=2$$

$$\left(2-\frac{1}{5}\right)-\left[\left(\frac{3}{2}+\frac{4}{5}-\frac{1}{2}\right)-\left(\frac{9}{10}+\frac{1}{2}-1\right)\right]=$$
$$=\frac{10-1}{5}-\left[\frac{15+8-5}{10}-\frac{9+5-10}{10}\right]=$$
$$=\frac{9}{5}-\left[\frac{18}{10}-\frac{4}{10}\right]=$$
$$=\frac{9}{5}-\frac{14}{10}=\frac{9}{5}-\frac{7}{5}=\frac{2}{5}$$

$$\left(2-\frac{1}{5}\right)-\left[\left(\frac{3}{2}+\frac{4}{5}-\frac{1}{4}\right)-\left(\frac{9}{10}+\frac{1}{2}-1\right)\right]=$$
$$=\frac{10-1}{5}-\left[\frac{30+16-5}{20}-\frac{9+5-10}{10}\right]=$$
$$=\frac{9}{5}-\left[\frac{41}{20}-\frac{4}{10}\right]=$$
$$=\frac{9}{5}-\left[\frac{41-8}{20}\right]=$$
$$=\frac{9}{5}-\frac{33}{20}=$$
$$=\frac{36-33}{20}=\frac{33}{20}$$

$$\left\{\left(1-\frac{1}{5}\right)-\left[1-\left(\frac{1}{10}+\frac{1}{2}\right)\right]\right\}+\frac{3}{2}=$$
$$=\left\{\left(\frac{5-1}{5}\right)-\left[1-\left(\frac{1+5}{10}\right)\right]\right\}+\frac{3}{2}=$$
$$=\left\{\frac{4}{5}-\left[1-\frac{6}{10}\right]\right\}+\frac{3}{2}=$$
$$=\left\{\frac{4}{5}-\left[1-\frac{3}{5}\right]\right\}+\frac{3}{2}=$$
$$=\left\{\frac{4}{5}-\left[\frac{5-3}{5}\right]\right\}+\frac{3}{2}=$$
$$=\left\{\frac{4}{5}-\frac{2}{5}\right\}+\frac{3}{2}=$$
$$=\frac{2}{5}+\frac{3}{2}=$$
$$=\frac{4+15}{10}=\frac{19}{10}$$

$$\left\{\frac{1}{4}+\left(1-\frac{1}{2}\right)-\left[1-\left(\frac{5}{6}-\frac{2}{12}\right)\right]\right\}-\left(\frac{3}{4}-\frac{5}{8}\right)=$$
$$=\left\{\frac{1}{4}+\left(\frac{2-1}{2}\right)-\left[1-\left(\frac{10-2}{12}\right)\right]\right\}-\left(\frac{6-5}{8}\right)=$$
$$=\left\{\frac{1}{4}+\frac{1}{2}-\left[1-\frac{8}{12}\right]\right\}-\frac{1}{8}=$$
$$=\left\{\frac{1}{4}+\frac{1}{2}-\frac{4}{12}\right\}-\frac{1}{8}=$$
$$=\left\{\frac{3+6-4}{12}\right\}-\frac{1}{8}=$$
$$=\frac{5}{12}-\frac{1}{8}=$$
$$=\frac{10-3}{24}=\frac{7}{24}$$

$$1-\left\{\frac{1}{2}-\left[\frac{2}{5}-\frac{1}{5}+1-\left(\frac{14}{7}-\frac{9}{6}+\frac{5}{10}\right)\right]\right\}-\left(1-\frac{3}{10}\right)=$$

$$=1-\left\{\frac{1}{2}-\left[\frac{2}{5}-\frac{1}{5}+1-\left(2-\frac{3}{2}+\frac{1}{2}\right)\right]\right\}-\left(\frac{10-3}{10}\right)=$$

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

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

$$=1-\left\{\frac{1}{2}-\left[\frac{2-1}{5}\right]\right\}-\frac{7}{10}=$$

$$=1-\left\{\frac{1}{2}-\frac{1}{5}\right\}-\frac{7}{10}=$$

$$=1-\left\{\frac{5-2}{10}\right\}-\frac{7}{10}=$$

$$=1-\frac{3}{10}-\frac{7}{10}=$$

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

$$=\frac{0}{10}=0$$

$$\left[\left(1+\frac{6}{8}\right)+\frac{5}{12}-\frac{11}{12}\right]+\left(\frac{5}{3}-\frac{9}{12}\right)-\left(\frac{1}{2}+\frac{4}{6}\right)=$$
$$=\left[\left(1+\frac{3}{4}\right)+\frac{5}{12}-\frac{11}{12}\right]+\left(\frac{5}{3}-\frac{3}{4}\right)-\left(\frac{1}{2}+\frac{2}{3}\right)=$$
$$=\left[\frac{7}{4}+\frac{5}{12}-\frac{11}{12}\right]+\frac{20-9}{12}-\frac{3+4}{6}=$$
$$=\frac{21+5-11}{12}+\frac{11}{12}-\frac{7}{6}=$$
$$=\frac{15}{12}+\frac{11}{12}-\frac{7}{6}=$$
$$=\frac{15+11-14}{12}=\frac{12}{12}=1$$

$$\left[\left(1+\frac{1}{4}-\frac{1}{2}\right)+\left(1+\frac{1}{6}\right)\right]+\left(\frac{5}{3}-\frac{1}{2}+1\right)=$$
$$=\left[\left(\frac{4+1-2}{4}\right)+\left(\frac{6+1}{6}\right)\right]+\left(\frac{10-3+6}{6}\right)=$$
$$=\left[\frac{3}{4}+\frac{7}{6}\right]+\frac{13}{6}=$$
$$=\frac{9+14}{12}+\frac{13}{6}=$$
$$=\frac{23}{12}+\frac{13}{6}=$$
$$=\frac{23+26}{12}=\frac{49}{12}$$

$$\frac{17}{14}-\left[\left(\frac{3}{2}+\frac{3}{4}-\frac{6}{7}+\frac{1}{14}\right)-\left(1-\frac{1}{2}\right)\right]-\frac{1}{7}=$$
$$=\frac{17}{14}-\left[\left(\frac{42+21-24+2}{28}\right)-\left(\frac{2-1}{2}\right)\right]-\frac{1}{7}=$$
$$=\frac{17}{14}-\left[\frac{41}{28}-\frac{1}{2}\right]-\frac{1}{7}=$$
$$=\frac{17}{14}-\left[\frac{41-14}{28}\right]-\frac{1}{7}=$$
$$=\frac{17}{14}-\frac{27}{28}-\frac{1}{7}=$$
$$=\frac{34-27-4}{28}=\frac{3}{28}$$

$$\left[\left(1-\frac{8}{9}\right)-\frac{1}{18}\right]+\left(1-\frac{1}{6}\right)-\left(1-\frac{8}{9}\right)=$$
$$=\left[\left(\frac{9-8}{9}\right)-\frac{1}{18}\right]+\left(\frac{6-1}{6}\right)-\left(\frac{9-8}{9}\right)=$$
$$=\left[\frac{1}{9}-\frac{1}{18}\right]+\frac{5}{6}-\frac{1}{9}=$$
$$=\left[\frac{2-1}{18}\right]+\frac{5}{6}-\frac{1}{9}=$$
$$=\frac{1}{18}+\frac{5}{6}-\frac{1}{9}=\frac{1}{18}+\frac{5}{6}-\frac{1}{9}=$$
$$=\frac{1+15-2}{18}=$$
$$=\frac{14}{18}=\frac{7}{9}$$

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

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

$$\left(2-\frac{1}{3}\right)-\left\{\frac{7}{3}-\left[\frac{4}{3}-\left(\frac{3}{2}-\frac{1}{3}\right)\right]-1+\frac{1}{3}\right\}=$$
$$=\frac{6-1}{3}-\left\{\frac{7}{3}-\left[\frac{4}{3}-\left(\frac{9-2}{6}\right)\right]-1+\frac{1}{3}\right\}=$$
$$=\frac{5}{3}-\left\{\frac{7}{3}-\left[\frac{4}{3}-\frac{7}{6}\right]-1+\frac{1}{3}\right\}=$$
$$=\frac{5}{3}-\left\{\frac{7}{3}-\left[\frac{8-7}{6}\right]-1+\frac{1}{3}\right\}=$$
$$=\frac{5}{3}-\left\{\frac{7}{3}-\frac{1}{6}-1+\frac{1}{3}\right\}=$$
$$=\frac{5}{3}-\left\{\frac{14-1-6+2}{6}\right\}=$$
$$=\frac{5}{3}-\frac{9}{6}=\frac{10-9}{6}=\frac{1}{6}$$

$$\left\{\frac{5}{6}-\left[\frac{2}{3}+\left(\frac{3}{4}-\frac{4}{9}\right)-\left(1-\frac{7}{12}\right)\right]+\left(1-\frac{1}{4}\right)\right\}-1=$$
$$=\left\{\frac{5}{6}-\left[\frac{2}{3}+\left(\frac{27-16}{36}\right)-\left(1-\frac{7}{12}\right)\right]+\left(\frac{4-1}{4}\right)\right\}-1=$$
$$=\left\{\frac{5}{6}-\left[\frac{2}{3}+\frac{11}{36}-\left(\frac{12-7}{12}\right)\right]+\frac{3}{4}\right\}-1=$$
$$=\left\{\frac{5}{6}-\left[\frac{2}{3}+\frac{11}{36}-\frac{5}{12}\right]+\frac{3}{4}\right\}-1=$$
$$=\left\{\frac{5}{6}-\left[\frac{24+11-15}{36}\right]+\frac{3}{4}\right\}-1=$$
$$=\left\{\frac{5}{6}-\frac{20}{36}+\frac{3}{4}\right\}-1=$$
$$=\left\{\frac{30-20+27}{36}\right\}-1=$$
$$=\frac{37}{36}-1=$$
$$=\frac{37-36}{36}=\frac{1}{36}$$

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

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

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

$$=\left[\frac{3+14}{12}\right]-\frac{7}{6}=$$

$$=\frac{17}{12}-\frac{7}{6}=$$

$$=\frac{17-14}{12}=\frac{3}{12}=\frac{1}{4}$$

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

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

$$=\left[\frac{3}{4}+\frac{7}{6}\right]-\frac{7}{6}=$$

$$=\left[\frac{9+14}{12}\right]-\frac{7}{6}=$$

$$=\frac{23}{12}-\frac{7}{6}=$$

$$=\frac{23-14}{12}=$$

$$=\frac{9}{12}=\frac{3}{4}$$

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

$$1-\left\{\left[\frac{6}{5}-\frac{1}{5}\right]-\left[\frac{5}{4}-\frac{2}{3}\right]\right\}=$$

$$1-\left\{1-\left[\frac{15-8}{12}\right]\right\}=$$

$$1-\left\{1-\frac{7}{12}\right\}=$$

$$1-\frac{5}{12}=\frac{7}{12}$$

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

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

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

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

$$=\left(\frac{1}{2}+\frac{7}{6}\right)\cdot\frac{4}{9}-\frac{1}{2}=$$

$$=\left(\frac{3+7}{6}\right)\cdot\frac{4}{9}-\frac{1}{2}=$$

$$=\left(\frac{10}{\cancel{6}_{3}}\right)\cdot\frac{\cancel{4}^{2}}{9}-\frac{1}{2}=$$

$$=\frac{20}{27}-\frac{1}{2}=$$

$$=\frac{40-27}{54}=\frac{13}{54}$$

$$3-\left\{1+\left[1-\left(\frac{2}{4}-\frac{7}{49}\right)\right]-\left[2-\left(\frac{2}{4}+\frac{7}{49}\right)\right]\right\}$$

Semplifico 2/4 in 1/2 e 7/49 in 1/7

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

$$=3-\left\{1+\left[1-\frac{7-2}{14}\right]-\left[2-\frac{7+2}{14}\right]\right\}=$$

$$=3-\left\{1+\left[1-\frac{5}{14}\right]-\left[2-\frac{9}{14}\right]\right\}=$$

$$=3-\left\{1+\left[\frac{14-5}{14}\right]-\left[\frac{28-9}{14}\right]\right\}=$$

$$=3-\left\{1+\frac{9}{14}-\frac{19}{14}\right\}=$$

$$=3-\frac{14+9-19}{14}=$$

$$=3-\frac{4}{14}=$$

Semplifico 4/14 in 2/7

$$=3-\frac{2}{7}=\frac{21-2}{7}=\frac{19}{7}$$

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