

## Espressioni con le frazioni e le quattro operazioni

### Evaluating Expressions Involving Fractions

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1.  $\frac{17}{3} \cdot \frac{1}{17} + 7 \cdot \frac{1}{14} =$   $\left[ \frac{5}{6} \right]$
  2.  $1 + \frac{1}{2} + \frac{1}{3} - \frac{1}{4} \cdot \left( 2 - \frac{3}{4} \right) =$   $\left[ \frac{17}{12} \right]$
  3.  $\frac{3}{4} - \left( \frac{4}{3} + \frac{5}{2} \right) \cdot \frac{9}{46} =$   $[0]$
  4.  $\frac{5}{3} - \left( \frac{7}{2} - \frac{4}{5} \right) \cdot \left( \frac{1}{3} + \frac{2}{9} \right) =$   $\left[ \frac{1}{6} \right]$
  5.  $\left( 3 + \frac{1}{2} \right) \cdot \left( \frac{2}{3} - \frac{1}{3} - \frac{1}{7} \right) + \frac{1}{3} =$   $[1]$
  6.  $\left( \frac{1}{2} + \left( \frac{1}{2} + \left( \frac{1}{2} + \frac{1}{3} \right) \cdot \frac{4}{5} \right) \right) \cdot \frac{4}{9} - \frac{1}{2} =$   $\left[ \frac{13}{54} \right]$
  7.  $\frac{1}{8} + \left( \frac{3}{14} + \frac{3}{7} \right) \cdot \frac{7}{12} =$   $\left[ \frac{1}{2} \right]$
  8.  $\left( \frac{6}{7} - \frac{24}{35} \right) \div \left( \frac{1}{7} + \frac{2}{28} \right) \cdot \frac{5}{2} =$   $[2]$
  9.  $\frac{5}{11} \cdot \left[ 1 + \left( 1 - \frac{1}{12} \cdot \frac{21}{5} \right) \cdot \frac{8}{10} \right] - \frac{1}{2} =$   $\left[ \frac{1}{10} \right]$
  10.  $1 - \left[ \left( \frac{3}{5} + \frac{2}{3} \div \frac{4}{3} \right) \cdot \frac{10}{3} - 2 \right] \div \left( 1 + \frac{2}{3} \right) =$   $[0]$
  11.  $\left( \frac{1}{4} \cdot \frac{5}{2} - \frac{3}{2} \cdot \frac{1}{4} \right) \cdot \left( \frac{6}{3} \cdot \frac{5}{4} + 1 \right) \div \left( \frac{6}{10} \cdot \frac{5}{2} + 1 \right) =$   $\left[ \frac{7}{20} \right]$
  12.  $\left[ \frac{16}{15} \cdot \frac{45}{8} - \left( \frac{3}{8} + \frac{1}{2} - \frac{3}{4} \right) \cdot \frac{4}{3} \right] \cdot \frac{2}{7} - \left( 1 - \frac{1}{2} \right) =$   $\left[ \frac{7}{6} \right]$
  13.  $\frac{1}{2} + \frac{1}{2} : \left[ \frac{2}{5} + \frac{1}{7} \cdot \left( \frac{2}{6} + \frac{1}{4} \right) : \frac{1}{4} \right] + \frac{7}{5} : \left( \frac{1}{5} + \frac{1}{2} \right) =$   $\left[ \frac{35}{11} \right]$
  14.  $\frac{38}{6} \cdot \left( 1 - \frac{1}{19} \right) - \left[ \left( \frac{5}{4} + \frac{10}{3} \right) \cdot \frac{3}{20} - \frac{21}{20} \cdot \frac{5}{28} \right] \div \frac{1}{3} =$   $\left[ \frac{9}{2} \right]$
  15.  $\left\{ 4 - \left( \frac{3}{4} + \frac{1}{2} + \frac{5}{4} \right) - \left[ \left( \frac{5}{3} + \frac{2}{5} - 2 \right) + \frac{3}{5} \right] \right\} \div \frac{1}{3} =$   $\left[ \frac{5}{2} \right]$
  16.  $\left( \frac{16}{5} - \frac{13}{15} - \frac{5}{4} \right) \div \frac{3}{16} - \frac{20}{3} \cdot \left( \frac{1}{3} + \frac{19}{20} - \frac{7}{10} \right) =$   $\left[ \frac{17}{9} \right]$
  17.  $\left( \frac{1}{7} - \frac{1}{14} \right) \div \left[ \left( \frac{1}{5} \div \frac{7}{3} + \frac{1}{7} \right) \cdot \left( \frac{3}{16} + \frac{1}{8} \right) \right] =$   $[1]$
  18.  $\left\{ \left[ \left( \frac{3}{4} - \frac{2}{5} \right) \cdot \frac{8}{7} + \left( 1 - \frac{1}{2} \right) \right] \div \frac{3}{5} \right\} \div \left( 1 + \frac{1}{2} \right) + 2 =$   $[3]$

19.  $\left[ \left( \frac{2}{4} - \frac{1}{3} \right) \cdot \frac{3}{2} + \left( \frac{2}{6} - \frac{1}{4} \right) \cdot \left( 1 - \frac{2}{5} \right) \right] \div \frac{6}{20} + 1 =$  [2]
20.  $\left\{ 27 : \left( 1 + \frac{3}{4} + \frac{3}{4} \cdot \frac{2}{3} \right) \cdot \frac{3}{4} \right\} \cdot \frac{2}{3} =$  [6]
21.  $\left[ \left( 5 - \frac{3}{7} \right) \cdot 5 - \left( \frac{32}{7} - 4 \right) \div \frac{1}{5} \right] \div \frac{5}{4} + \left( 1 - \frac{1}{3} \right) + \frac{10}{3} =$  [20]
22.  $\left\{ \frac{5}{7} + \frac{11}{6} \div \left( \frac{1}{4} + \frac{2}{3} \right) \right\} \times \frac{21}{19} - \left( \frac{1}{6} + \frac{7}{12} \right) \times \frac{4}{5} \right\} \div 3 - \frac{1}{2} =$   $\left[ \frac{3}{10} \right]$
23.  $\left[ \left( \frac{15}{25} - \frac{2}{6} \right) \cdot \frac{9}{12} + \left( \frac{4}{15} - \frac{11}{45} \right) \cdot \frac{10}{2} \right] \div \frac{7}{9} =$   $\left[ \frac{2}{5} \right]$
24.  $\left[ \left( \frac{9}{12} + \frac{10}{4} \right) \div \frac{26}{4} + \left( \frac{10}{8} - \frac{21}{18} \right) \div \frac{10}{12} \right] \cdot \left[ \left( \frac{9}{15} + \frac{4}{2} - \frac{5}{3} \right) \div \frac{35}{45} \right] =$   $\left[ \frac{18}{25} \right]$
25.  $\left( 1 - \frac{5}{7} \right) \cdot \left[ \left( 3 - \frac{6}{7} - \frac{5}{14} \right) \div \left( \frac{5}{6} - \frac{1}{3} - \frac{3}{7} \right) - \frac{5}{12} \right] =$   $\left[ \frac{35}{6} \right]$
26.  $\left[ \left( \frac{3}{4} - \frac{5}{7} \right) \div \left( \frac{10}{12} + \frac{4}{9} - 1 \right) \right] \div \left\{ \left( \frac{1}{2} - \frac{3}{7} \right) \div \left[ \left( \frac{3}{4} - \frac{2}{3} \right) \div \frac{1}{5} \right] \right\} - \frac{1}{2} =$   $\left[ \frac{1}{4} \right]$
27.  $\left[ \left( 1 - \frac{1}{2} \right) \cdot \frac{1}{8} \right] \div \left\{ \left[ \left( \frac{3}{7} + \frac{1}{6} - \frac{5}{14} \right) \cdot \left( 5 + \frac{1}{4} \right) - \frac{1}{2} \right] - \frac{1}{4} \right\} + \frac{1}{2} =$   $\left[ \frac{5}{8} \right]$
28.  $\left( 3 + \frac{6}{8} - \frac{14}{7} \right) \cdot \frac{2}{7} \cdot \left( \frac{1}{4} - \frac{1}{6} \right) - \frac{1}{24} =$  [0]
29.  $\frac{21}{26} \div \frac{7}{13} + 3 \cdot \frac{5}{6} + \left( 1 - \frac{3}{4} \right) - \left( 1 - \frac{9}{28} \right) =$   $\left[ \frac{25}{7} \right]$
30.  $\left[ \left( \frac{3}{4} + \frac{2}{3} \right) \cdot \frac{3}{34} + \left( \frac{1}{3} - \frac{1}{4} \right) \cdot \frac{3}{2} - \left( 1 - \frac{3}{4} \right) \cdot \frac{1}{3} \right] \div \frac{3}{2} + \frac{5}{7} \div \left( 1 + \frac{2}{7} \right) - \frac{1}{3} =$   $\left[ \frac{1}{3} \right]$
31.  $\left[ \frac{2}{3} - \left( \frac{1}{8} + \frac{1}{4} \right) \cdot \frac{2}{3} \right] \div \left( 3 + \frac{1}{3} \right) + \left( 1 + \frac{1}{3} \right) \div 8 =$   $\left[ \frac{7}{24} \right]$
32.  $5 + \left( 1 - \frac{3}{5} \right) \cdot \left( 3 + \frac{1}{3} \right) - \frac{4}{3} : \left( 1 + \frac{1}{3} \right) + \frac{14}{5} \cdot \frac{1}{7} - 3 : \left( 2 + \frac{4}{3} \right) =$   $\left[ \frac{21}{10} \right]$
33.  $\left\{ \frac{1}{7} \cdot \left[ \left( \frac{3}{4} + \frac{5}{6} \right) \cdot \left( 1 + \frac{5}{19} \right) - \frac{2}{3} \cdot \frac{2}{3} \right] + \frac{4}{5} \div 2 \right\} \cdot \frac{15}{28} =$   $\left[ \frac{1}{3} \right]$
34.  $\left\{ \frac{4}{7} + \frac{16}{15} \cdot \left( \frac{5}{56} + \frac{5}{28} \div \frac{5}{2} + \frac{1}{4} \right) \right\} \div \frac{4}{7} - \frac{5}{12} \right\} \div \frac{13}{36} - \frac{15}{28} \div \frac{5}{28} =$  [0]
35.  $\left\{ \frac{5}{6} - \left[ \frac{2}{3} + \left( \frac{3}{4} - \frac{4}{9} \right) - \left( 1 - \frac{7}{3} \cdot \frac{1}{4} \right) \right] + \frac{2}{3} \div \frac{8}{9} \right\} \cdot \frac{36}{37} =$  [1]
36.  $\left[ \left( \frac{23}{4} - \frac{31}{8} \right) \div \left( \frac{29}{6} - \frac{11}{3} \right) - \left( \frac{4}{7} + \frac{5}{4} \right) \cdot \frac{7}{17} \right] \cdot \frac{49}{36} - \left( \frac{3}{12} - \frac{1}{6} \right) =$   $\left[ \frac{13}{12} \right]$
37.  $\left[ \left( \frac{3}{2} - \frac{37}{60} + \frac{4}{15} \right) \div \left( \frac{21}{10} - \frac{37}{20} \right) - \frac{25}{2} \cdot \left( \frac{9}{10} - \frac{3}{25} - \frac{3}{4} \right) \right] \cdot \frac{10}{23} - \frac{9}{4} =$  [1]

- 38.**  $\left\{ \frac{8}{5} + \left[ \frac{8}{7} - \left( \frac{2}{3} + \frac{4}{5} \right) \cdot \frac{15}{22} \right] \cdot \frac{7}{3} \right\} \div \frac{29}{15} =$  [1]
- 39.**  $\frac{2}{3} + \frac{4}{33} \cdot \left\{ \left[ \frac{5}{73} \cdot \left( \frac{28}{5} - \frac{1}{8} \right) - \left( \frac{2}{15} + \frac{4}{9} - \frac{1}{3} \right) \cdot \frac{9}{22} \right] \cdot \left( \frac{7}{5} - \frac{1}{8} \div \frac{1}{4} + \frac{8}{3} - \frac{7}{30} \right) \right\} =$  [ $\frac{7}{9}$ ]
- 40.**  $\left\{ \left[ \frac{7}{5} \cdot \left( \frac{3}{5} \div \frac{7}{5} + 1 \right) \cdot \frac{10}{2} \right] \div \frac{5}{2} + \frac{1}{4} \right\} \div \frac{17}{5} =$  [ $\frac{5}{4}$ ]
- 41.**  $2 + \left[ \left( \frac{8}{5} - \frac{3}{2} \right) + \left( \frac{4}{3} - 1 \right) \right] \div \frac{26}{5} =$  [ $\frac{25}{12}$ ]
- 42.**  $\frac{22}{15} \cdot \left[ \frac{5}{6} + \left( 10 + \frac{1}{2} \right) \div \frac{7}{10} - \frac{1}{3} \cdot \frac{5}{2} \right] + \frac{3}{7} \cdot \frac{14}{12} =$  [ $\frac{45}{2}$ ]
- 43.**  $= \left[ \left( \frac{14}{3} + \frac{17}{9} \right) \div \frac{59}{9} + \left( \frac{31}{9} + \frac{2}{3} \right) \right] \div \left( 1 + \frac{37}{9} \right) =$  [1]
- 44.**  $= \left[ \left( 2 - \frac{4}{10} \right) \cdot \frac{3}{4} - \left( \frac{13}{20} - \frac{6}{10} \right) \div \frac{3}{4} \right] : \left( \frac{5}{4} - \frac{11}{12} \right) =$  [ $\frac{17}{5}$ ]
- 45.**  $\left( \frac{3}{5} + \frac{2}{3} \right) + \left( \frac{25}{8} \cdot \frac{1}{9} + \frac{5}{12} \right) \div \left( \frac{5}{4} \cdot \frac{5}{2} \cdot \frac{1}{3} \right) =$  [2]
- 46.**  $\left( 1 - \frac{4}{5} \right) - \frac{1}{3} \cdot \left[ \frac{3}{2} - \left( \frac{4}{5} \cdot \frac{8}{3} + \frac{3}{4} \right) \right] : \left( 5 - \frac{1}{2} \right) + \frac{9}{10} : \left( 4 - \frac{2}{5} \right) =$  [ $\frac{5}{12}$ ]
- 47.**  $\left( 2 - \frac{1}{2} \right) - \left\{ \left[ \frac{6}{2} \cdot \left( \frac{11}{6} - \frac{7}{4} \right) \right] \div \left[ 1 - \left( \frac{5}{2} - \frac{3}{4} \right) \div \frac{21}{5} \right] \right\} \div \frac{5}{7} =$  [ $\frac{9}{10}$ ]
- 48.**  $\left( \frac{1}{4} \cdot \frac{5}{2} - \frac{3}{2} \cdot \frac{1}{4} \right) \cdot \left( \frac{6}{3} \cdot \frac{5}{4} + 1 \right) \div \left( \frac{6}{10} \cdot \frac{5}{2} + 1 \right) =$  [ $\frac{7}{20}$ ]
- 49.**  $\left\{ \left[ \left( \frac{6}{5} - \frac{1}{10} \right) : \left( 2 + \frac{1}{5} \right) \right] : \left[ \left( \frac{2}{3} : \frac{5}{6} + \frac{1}{10} \right) : \frac{3}{25} \right] \right\} : \frac{7}{30} =$  [ $\frac{2}{7}$ ]
- 50.**  $\left( 1 - \frac{1}{5} \right) - \left( 1 - \frac{2}{3} \right) \cdot \left[ \left( 1 + \frac{1}{2} \right) - \left( \frac{4}{5} : \frac{8}{3} + \frac{3}{4} \right) \right] \cdot \frac{9}{2} + \left( 1 - \frac{1}{10} \right) : \left( 4 - \frac{2}{5} \right) =$  [ $\frac{3}{8}$ ]
- 51.**  $\left\{ \left( 1 - \frac{1}{4} \right) \cdot \left[ \frac{7}{3} : \frac{7}{6} + \frac{9}{3} - \frac{3}{2} : \left( 1 - \frac{1}{2} \right) \right] - \frac{1}{6} \right\} : \frac{20}{9} =$  [ $\frac{3}{5}$ ]
- 52.**  $\left[ \left( 1 - \frac{2}{3} \right) : \frac{5}{6} \right] \cdot \left[ \left( 1 - \frac{11}{13} \right) \cdot \left( \frac{3}{4} + \frac{5}{2} \right) \right] : \left[ \left( 1 + \frac{1}{5} \right) \cdot \left( \frac{5}{4} - \frac{7}{6} \right) \right] =$  [2]
- 53.**  $\left[ \left( 1 - \frac{1}{2} \right) + \left( \frac{5}{3} - \frac{2}{5} \right) : \frac{19}{3} \right] \cdot \left\{ 1 : \left[ \left( 1 + \frac{7}{4} \right)^2 : \left( 2 + \frac{3}{4} \right) \right] : \frac{4}{11} \right\} =$  [ $\frac{7}{10}$ ]
- 54.**  $\left( 1 + \frac{5}{4} \right) \cdot \left[ 1 + \left( 1 - \frac{1}{2} \right) \cdot \left( 1 - \frac{1}{2} \right) \right] : \left[ \frac{1}{2} + 1 : \left( 1 + \frac{1}{3} \right) \right] =$  [ $\frac{9}{4}$ ]
- 55.**  $\left[ \left( \frac{17}{45} - \frac{1}{10} \right) \cdot \frac{2}{5} + \frac{11}{12} : \frac{11}{2} \right] : \left( 1 + \frac{2}{3} - \frac{11}{9} \right) =$  [ $\frac{5}{8}$ ]
- 56.**  $\left[ \left( \frac{3}{8} + \frac{2}{3} \right) : \left( \frac{1}{4} + \frac{5}{6} - 1 \right) - \left( 3 - \frac{1}{2} \right) \right] : \left( 1 - \frac{3}{5} \right) \cdot \frac{1}{3} =$  [ $\frac{25}{3}$ ]

$$57. \left[ \frac{1}{3} \cdot \left( \frac{1}{3} + \frac{1}{2} \right) : 5 + \frac{1}{9} \right] \cdot \frac{1}{3} + \frac{5}{6} - \left( 1 - \frac{2}{3} \right) \cdot \frac{1}{3} = \left[ \frac{7}{9} \right]$$

$$58. \left[ \frac{13}{5} : \left( 2 + \frac{5}{4} \right) - \left( 1 - \frac{1}{2} \right) \right] : \frac{4}{5} + \left( 1 - \frac{1}{6} \right) - \left( 1 - \frac{2}{3} \right) = \left[ \frac{7}{8} \right]$$