

Mathematik * Jahrgangsstufe 6 * Addition und Subtraktion gemischter Zahlen

Beispiel zur Addition:

$$2\frac{3}{5} + 4\frac{7}{10} = 2\frac{6}{10} + 4\frac{7}{10} = 2+4 + \frac{6}{10} + \frac{7}{10} = 6 + \frac{13}{10} = 6 + 1\frac{3}{10} = 7\frac{3}{10}$$



Beispiele zur Subtraktion:

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

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

$$5\frac{2}{3} - 2\frac{5}{6} = 5\frac{4}{6} - 2\frac{5}{6} = 4\frac{10}{6} - 2\frac{5}{6} = 4-2 + \frac{10}{6} - \frac{5}{6} = 2 + \frac{5}{6} = 2\frac{5}{6}$$

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

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

Beachte: $2\frac{5}{6} - 3\frac{1}{6} = -1 + \frac{4}{6} \neq -1\frac{4}{6}$ denn $-1\frac{4}{6} = -(1 + \frac{4}{6}) = -1 - \frac{4}{6}$

$$2\frac{5}{6} - 3\frac{1}{6} = 2 + \frac{5}{6} - 3 - \frac{1}{6} = 2-3 + \frac{5}{6} - \frac{1}{6} = -1 + \frac{4}{6} = -\frac{6}{6} + \frac{4}{6} = -\frac{2}{6} = -\frac{1}{3} \text{ oder}$$

$$2\frac{5}{6} - 3\frac{1}{6} = -(3\frac{1}{6} - 2\frac{5}{6}) = -(2\frac{7}{6} - 2\frac{5}{6}) = -\frac{2}{6} = -\frac{1}{3}$$

1. Berechne möglichst geschickt!

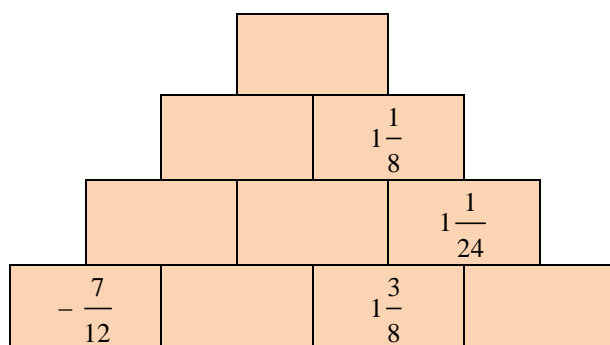
a) $2\frac{3}{4} + 3\frac{3}{8}$ b) $2\frac{3}{4} - 3\frac{3}{8}$ c) $2\frac{3}{4} + 3\frac{7}{8}$ d) $2\frac{3}{4} - 3\frac{7}{8}$

2. Berechne möglichst geschickt!

a) $3\frac{5}{6} - 4\frac{5}{9} + 2\frac{7}{18} - 5\frac{1}{3}$ b) $1\frac{3}{4} - (2\frac{1}{3} - 3\frac{5}{6}) + 4\frac{2}{3} - 8\frac{5}{12}$

c) $13\frac{1}{12} - 14\frac{5}{8} + \frac{5}{6} - 2\frac{3}{8} + 1\frac{1}{4}$ d) $1 - (2\frac{1}{3} - (3\frac{3}{4} - 5\frac{1}{2}) + 6\frac{5}{6}) + \frac{11}{12}$

3. In jedem Kästchen steht die Summe der beiden darunter liegenden Zahlen.
Ergänze alle fehlenden Zahlen!



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1. a) $2\frac{3}{4} + 3\frac{3}{8} = 2\frac{6}{8} + 3\frac{3}{8} = 2 + 3 + \frac{6}{8} + \frac{3}{8} = 5 + \frac{9}{8} = 6\frac{1}{8}$
 b) $2\frac{3}{4} - 3\frac{3}{8} = 2\frac{6}{8} - 3\frac{3}{8} = 2 - 3 + \frac{6}{8} - \frac{3}{8} = -1 + \frac{3}{8} = -\frac{8}{8} + \frac{3}{8} = -\frac{5}{8}$
 c) $2\frac{3}{4} + 3\frac{7}{8} = 2\frac{6}{8} + 3\frac{7}{8} = 2 + 3 + \frac{6}{8} + \frac{7}{8} = 5 + \frac{13}{8} = 5 + 1 + \frac{5}{8} = 6\frac{5}{8}$
 d) $2\frac{3}{4} - 3\frac{7}{8} = -(3\frac{7}{8} - 2\frac{3}{4}) = -(3 - 2 + \frac{7}{8} - \frac{6}{8}) = -(1\frac{1}{8}) = -1\frac{1}{8}$



2. a) $3\frac{5}{6} - 4\frac{5}{9} + 2\frac{7}{18} - 5\frac{1}{3} = 3\frac{15}{18} - 4\frac{10}{18} + 2\frac{7}{18} - 5\frac{6}{18} = (3\frac{15}{18} + 2\frac{7}{18}) - (4\frac{10}{18} + 5\frac{6}{18}) =$
 $5\frac{22}{18} - 9\frac{16}{18} = 5 - 9 + \frac{22}{18} - \frac{16}{18} = -4 + \frac{6}{18} = -4 + \frac{1}{3} = -3 - \frac{2}{3} = -3\frac{2}{3}$
 b) $1\frac{3}{4} - (2\frac{1}{3} - 3\frac{5}{6}) + 4\frac{2}{3} - 8\frac{5}{12} = 1\frac{9}{12} - (2\frac{2}{6} - 3\frac{5}{6}) + 4\frac{8}{12} - 8\frac{5}{12} =$
 $1\frac{9}{12} - (-1 - \frac{3}{6}) + 4\frac{8}{12} - 8\frac{5}{12} = 1\frac{9}{12} + 1\frac{3}{6} + 4\frac{8}{12} - 8\frac{5}{12} = 1\frac{9}{12} + 1\frac{6}{12} + 4\frac{8}{12} - 8\frac{5}{12} =$
 $1 + 1 + 4 + \frac{9}{12} + \frac{6}{12} + \frac{8}{12} - 8\frac{5}{12} = 6 + \frac{23}{12} - 8 - \frac{5}{12} = -2 + \frac{18}{12} = -2 + 1\frac{1}{2} = -\frac{1}{2}$
 c) $13\frac{1}{12} - 14\frac{5}{8} + \frac{5}{6} - 2\frac{3}{8} + 1\frac{1}{4} = 13\frac{2}{24} + \frac{20}{24} + 1\frac{6}{24} - (14\frac{15}{24} + 2\frac{9}{24}) =$
 $14\frac{28}{24} - 16\frac{24}{24} = 15\frac{4}{24} - 17 = -(17 - 15\frac{1}{6}) = -1\frac{5}{6}$
 d) $1 - (2\frac{1}{3} - (3\frac{3}{4} - 5\frac{1}{2}) + 6\frac{5}{6}) + \frac{11}{12} = 1 - (2\frac{4}{12} - (3\frac{3}{4} - 5\frac{2}{4}) + 6\frac{10}{12}) + \frac{11}{12} =$
 $1 - (2\frac{4}{12} - (-2 + \frac{1}{4}) + 6\frac{10}{12}) + \frac{11}{12} = 1 - (2\frac{4}{12} - (-1\frac{3}{4}) + 6\frac{10}{12}) + \frac{11}{12} =$
 $1 - (2\frac{4}{12} + 1\frac{9}{12} + 6\frac{10}{12}) + \frac{11}{12} = 1 - 9\frac{23}{12} + \frac{11}{12} = 1 - 9 - \frac{23}{12} + \frac{11}{12} = -8 - \frac{12}{12} = -8 - 1 = -9$

3. In jedem Kästchen steht die Summe der beiden darunter liegenden Zahlen.
Ergänze alle fehlenden Zahlen!

