

1. Berechne:

- a) $\frac{4}{15} + \frac{1}{3} = \frac{4}{15} + \frac{5}{15} = \frac{9}{15} = \frac{3}{5}$ b) $\frac{1}{2} - \frac{1}{3} = \frac{3}{6} - \frac{2}{6} = \frac{1}{6}$ c) $\frac{4}{21} \cdot \frac{7}{12} = \frac{4 \cdot 7}{21 \cdot 12} = \frac{1}{9}$
- d) $\frac{4}{15} : \frac{1}{3} = \frac{4 \cdot 3}{15 \cdot 1} = \frac{4}{5}$ e) $11\frac{1}{6} - 5\frac{3}{4} = 11\frac{2}{12} - 5\frac{9}{12} = 10\frac{14}{12} - 5\frac{9}{12} = 5\frac{5}{12}$
- f) $0,02 \cdot 20,2 = 0,404$ g) $12,345 : 3 = 4,115$ h) $17,8 : 400 = 0,0445$
- i) $0,84 : 0,625 = 840 : 625 = 1,344$ j) $23,4 \cdot 1,07 = 25,038$
- k) $9\frac{5}{6} - \left(4\frac{5}{18} - 1\frac{8}{12} - \frac{2}{3} \right) = 9\frac{5}{6} - \left(4\frac{10}{36} - 1\frac{24}{36} - \frac{24}{36} \right) = 9\frac{5}{6} - \left(4\frac{10}{36} - 2\frac{12}{36} \right) =$
 $= 9\frac{5}{6} - \left(3\frac{46}{36} - 2\frac{12}{36} \right) = 9\frac{5}{6} - 1\frac{34}{36} = 9\frac{15}{18} - 1\frac{17}{18} = 8\frac{33}{18} - 1\frac{17}{18} = 7\frac{16}{18} = 7\frac{8}{9}$
- l) $\left(90\frac{16}{25} - 75,839 \right) - \left(6\frac{2}{5} + 3,207 \right) = \left(90\frac{64}{100} - 75,839 \right) - \left(6\frac{4}{10} + 3,207 \right) =$
 $= (90,64 - 75,839) - (6,4 + 3,207) = 14,801 - 9,607 = 5,194$
- m) $3,5 - \left[\frac{5}{7} - \left(\frac{3}{2} \right)^2 \cdot 0,4 \right] = 3,5 - \left[\frac{5}{7} - \frac{3 \cdot 3}{2 \cdot 2} \cdot \frac{4}{9} \right] = 3,5 - \left[\frac{5}{7} - 1 \right] = \frac{35}{10} - \left[-\frac{2}{7} \right] =$
 $= \frac{7}{2} + \frac{2}{7} = \frac{49}{14} + \frac{4}{14} = \frac{53}{14} = 3\frac{11}{14}$
- n) $0,12 \cdot (-0,5) - \left(-\frac{1}{12} \right) : 0,2 = -0,06 + \frac{1}{12} : \frac{2}{9} = -0,06 + \frac{1 \cdot 9}{12 \cdot 2} = -0,06 + \frac{3}{8} = -0,06 + 0,375 = 0,315$

2. Berechne möglichst vorteilhaft und gib an, welches Rechengesetz du verwendet hast:

- a) $\frac{3}{8} \cdot 17 - \frac{3}{8} \cdot 7 = \frac{3}{8} \cdot (17 - 7) = \frac{3}{8} \cdot 10 = \frac{3 \cdot 10}{8} = \frac{15}{4} = 3\frac{3}{4}$ Distributivgesetz
- b) $36 \cdot \left(2\frac{1}{4} - 0,4 \right) = 36 \cdot \left(\frac{9}{4} - \frac{4}{9} \right) = \frac{36 \cdot 9}{1 \cdot 4} - \frac{36 \cdot 4}{1 \cdot 9} = 81 - 16 = 65$ Distributivgesetz
- c) $0,7 + \frac{5}{17} + 1\frac{2}{9} = \frac{7}{9} + \frac{5}{17} + \frac{11}{9} = \frac{7}{9} + \frac{11}{9} + \frac{5}{17} = 2 + \frac{5}{17} = 2\frac{5}{17}$ Kommutativgesetz

3. Fülle die Lücken:

- a) $\dots \cdot \frac{3}{2} = -\frac{5}{6}$ $-\frac{5}{6} : \frac{3}{2} = -\frac{5 \cdot 2}{6 \cdot 3} = -\frac{5}{9}$
- b) $-\frac{5}{6} : \dots = 1\frac{3}{7}$ $-\frac{5}{6} : 1\frac{3}{7} = -\frac{5}{6} : \frac{10}{7} = -\frac{5 \cdot 7}{6 \cdot 10} = -\frac{7}{12}$
- c) $-\frac{5}{9} \cdot \dots = -1\frac{3}{7}$ $-1\frac{3}{7} : \left(-\frac{5}{9} \right) = \frac{10 \cdot 9}{7 \cdot 5} = \frac{18}{7} = 2\frac{4}{7}$

4. Stelle den Term auf und berechne seinen Wert:

$\left(3 + \frac{4}{5} \right) - 4 \cdot \left(3\frac{3}{4} - \frac{3}{5} \right) = 3,8 - 4 \cdot (3,75 - 0,6) = 3,8 - 4 \cdot 3,15 = 3,8 - 12,6 = -8,8$