

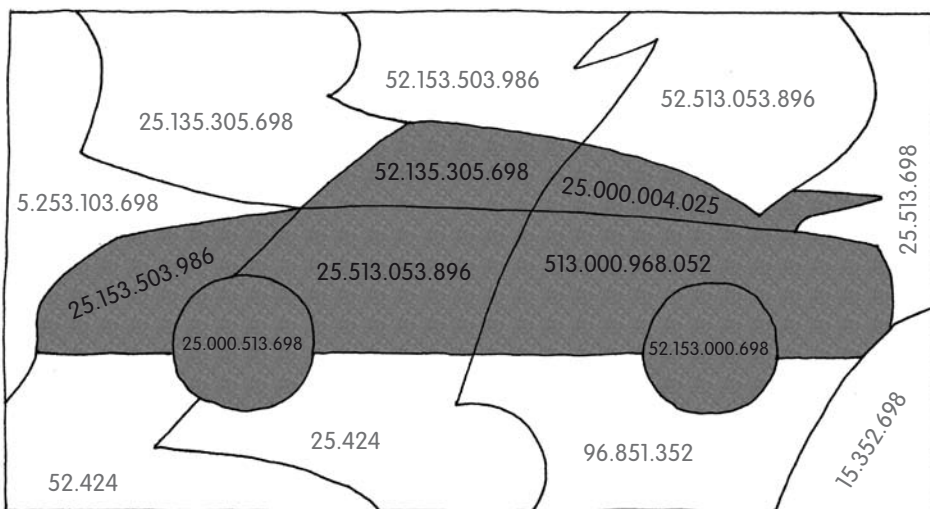
Richtig rechnen trotz Dyskalkulie

Mathematik begreifen
in der 5. Jahrgangsstufe

Lösungen

Lösung zur S. 15

1. a) $7.325.496.255 = 7 \text{ Mrd.} + 325 \text{ Mio.} + 496 \text{ T} + 255 \text{ E}$
 b) $9.505.642.140 = 9 \text{ Mrd.} + 505 \text{ Mio.} + 642 \text{ T} + 140 \text{ E}$
 c) $5.007.803.020 = 5 \text{ Mrd.} + 7 \text{ Mio.} + 803 \text{ T} + 20 \text{ E}$
 d) $76.591.458.341 = 76 \text{ Mrd.} + 591 \text{ Mio.} + 458 \text{ T} + 341 \text{ E}$
 e) $28.440.083.002 = 28 \text{ Mrd.} + 440 \text{ Mio.} + 83 \text{ T} + 2 \text{ E}$
 f) $60.032.450.350 = 60 \text{ Mrd.} + 32 \text{ Mio.} + 450 \text{ T} + 350 \text{ E}$
 g) $913.748.256.174 = 913 \text{ Mrd.} + 748 \text{ Mio.} + 256 \text{ T} + 174 \text{ E}$
 h) $120.980.406.333 = 120 \text{ Mrd.} + 980 \text{ Mio.} + 406 \text{ T} + 333 \text{ E}$
 i) $507.002.008.010 = 507 \text{ Mrd.} + 2 \text{ Mio.} + 8 \text{ T} + 10 \text{ E}$
2. a) $52 \text{ Mrd} \ 135 \text{ Mio} \ 305 \text{ T} \ 698 \text{ E} = 52.135.305.698$
 b) $25 \text{ Mrd} \ 153 \text{ Mio} \ 503 \text{ T} \ 986 \text{ E} = 25.153.503.986$
 c) $25 \text{ Mrd} \ 513 \text{ Mio} \ 53 \text{ T} \ 896 \text{ E} = 25.513.053.896$
 d) $25 \text{ Mrd} \ 513 \text{ T} \ 698 \text{ E} = 25.000.513.698$
 e) $153 \text{ Mio} \ 52 \text{ Mrd} \ 698 \text{ E} = 52.153.000.698$
 f) $968 \text{ T} \ 513 \text{ Mrd} \ 52 \text{ E} = 513.000.968.052$
 g) $4 \text{ T} \ 25 \text{ Mrd} \ 25 \text{ E} = 25.000.004.025$

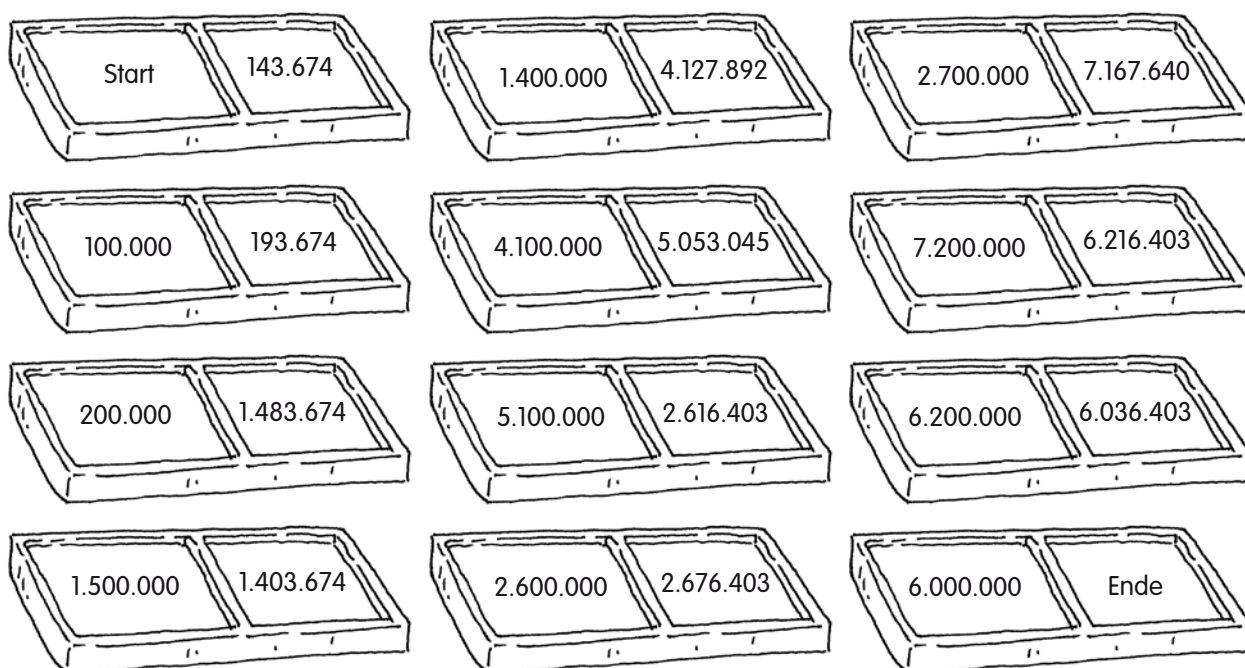


Lösung zur S. 17

1. a) $2.536 \approx \underline{3.000}$ d) $31.637 \approx \underline{32.000}$ g) $180.739 \approx \underline{181.000}$
 b) $7.902 \approx \underline{8.000}$ e) $80.149 \approx \underline{80.000}$ h) $411.450 \approx \underline{411.000}$
 c) $8.208 \approx \underline{8.000}$ f) $320.045 \approx \underline{320.000}$ i) $7.060.039 \approx \underline{7.060.000}$

2. a) $47.356 \approx$ ~~48.000~~ 50.000 ~~47.000~~ ~~40.000~~
 b) $13.448 \approx$ ~~13.000~~ ~~20.000~~ 10.000 ~~14.000~~
 c) $71.689 \approx$ ~~72.000~~ ~~71.000~~ 70.000 ~~80.000~~
 d) $38.498 \approx$ 40.000 ~~39.000~~ ~~38.000~~ ~~30.000~~
 e) $255.478 \approx$ ~~300.000~~ ~~250.000~~ ~~200.000~~ 260.000
 f) $569.421 \approx$ ~~560.000~~ ~~600.000~~ 570.000 ~~567.000~~
 g) $894.531 \approx$ ~~900.000~~ 890.000 ~~880.000~~ ~~895.000~~

3.



Lösung zur S. 23

1. Gerundet auf Hunderter

704 + 278	700 + 300
757 + 214	800 + 300
789 + 290	400 + 1.000
497 + 901	1.000 + 500
411 + 973	500 + 900
955 + 467	800 + 200

Gerundet auf Zehner

321 + 467	320 + 470
325 + 461	600 + 520
608 + 519	610 + 520
604 + 513	320 + 460
603 + 517	600 + 510
323 + 461	330 + 460

2. $811 + 398 \approx 800 + 400; 800 + 400 = 1.200$ $604 + 1.894 \approx 600 + 1.900; 600 + 1.900 = 2.500$
 $790 + 658 \approx 800 + 700; 800 + 700 = 1.500$ $735 + 864 \approx 700 + 900; 700 + 900 = 1.600$
 $438 + 949 \approx 400 + 900; 400 + 900 = 1.300$ $4.421 + 7.024 \approx 4.400 + 7.000; 4.400 + 7.000 = 11.400$
 $902 + 376 \approx 900 + 400; 900 + 400 = 1.300$ $8.279 + 2.003 \approx 8.300 + 2.000 = 10.300$

3.

Gerundet auf Hunderter
$812 + 350 \approx 1.200$
$389 + 622 \approx 1.010$
$726 + 410 \approx 1.200$
$550 + 180 \approx 800$
$937 + 444 \approx 1.200$

Gerundet auf Tausender
$1.897 + 4.163 \approx 6.000$
$3.743 + 5.901 \approx 9.000$
$1.271 + 8.042 \approx 10.000$
$7.384 + 2.605 \approx 10.000$
$8.547 + 3.409 \approx 11.000$

Gerundet auf Zehner
$622 + 389 \approx 1.010$
$309 + 608 \approx 920$
$410 + 726 \approx 1.150$
$581 + 237 \approx 820$
$443 + 957 \approx 1.400$

4.



$301 + 728 \approx$	$550 + 563 \approx$	$559 + 562 \approx$	$557 + 568 \approx$	$309 + 725 \approx$	$302 + 724 \approx$
Ergebnisse:					
1.110	1.120	1.030	1.020	1.040	1.130

Lösung zur S. 24

1. a) Runde auf den Hunderter.

$$702 - 498 \approx 700 - 500 = 200$$

$$956 - 661 \approx 1.000 - 700 = 300$$

$$937 - 181 \approx 900 - 200 = 700$$

$$817 - 421 \approx 800 - 400 = 400$$

$$889 - 802 \approx 900 - 800 = 100$$

b) Runde auf den Zehner.

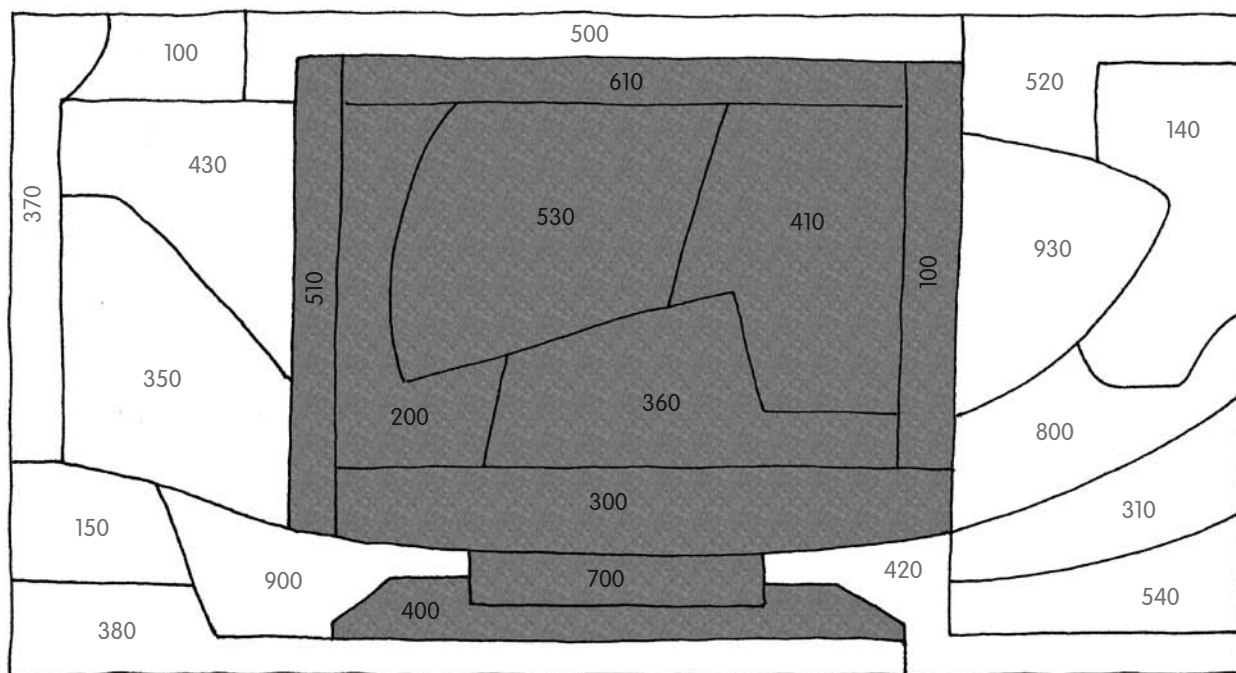
$$994 - 382 \approx 990 - 380 = 610$$

$$770 - 259 \approx 770 - 260 = 510$$

$$835 - 311 \approx 840 - 310 = 530$$

$$547 - 136 \approx 550 - 140 = 410$$

$$833 - 468 \approx 830 - 470 = 660$$



2. a) 134 CDs - 56 CDs \approx $130 - 60 = 70$

e) 720 CDs - 481 CDs \approx $720 - 480 = 240$

b) 93 CDs - 40 CDs \approx $90 - 40 = 50$

f) 909 CDs - 392 CDs \approx $910 - 390 = 520$

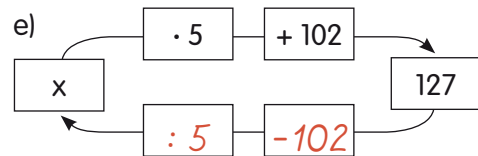
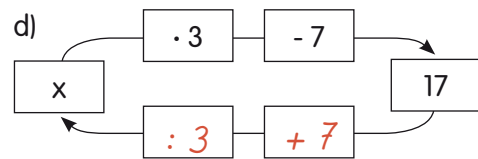
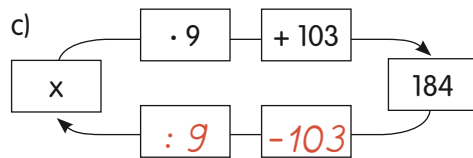
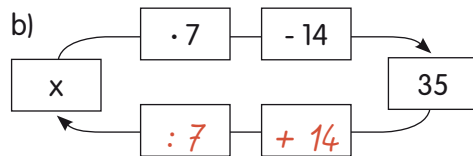
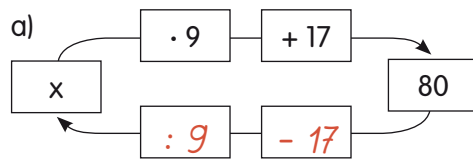
c) 389 CDs - 77 CDs \approx $390 - 80 = 310$

g) 687 CDs - 678 CDs \approx $690 - 680 = 10$

d) 401 CDs - 159 CDs \approx $400 - 160 = 240$

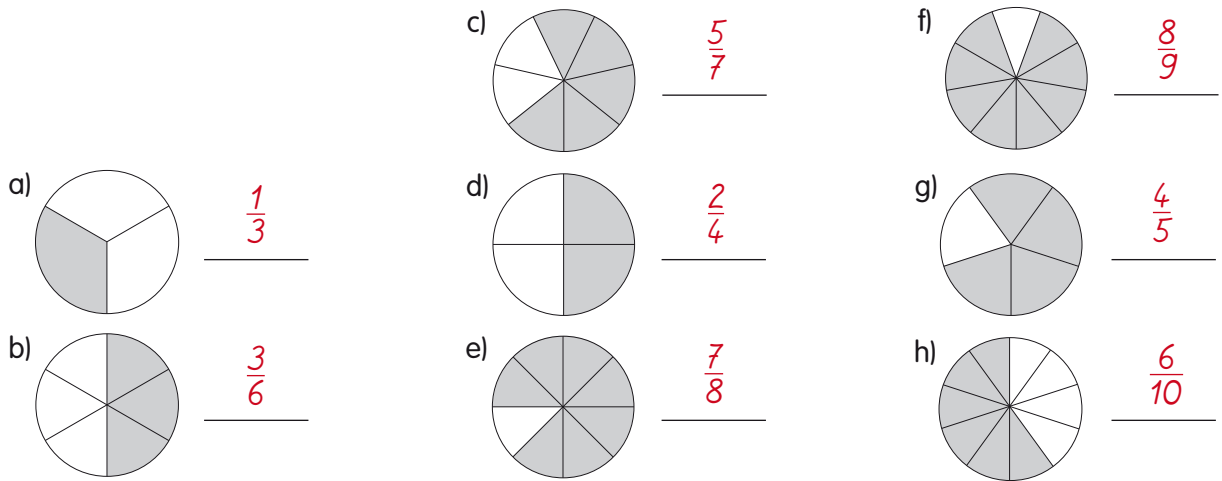
h) 500 CDs - 207 CDs \approx $500 - 210 = 290$

Lösung zur S. 47

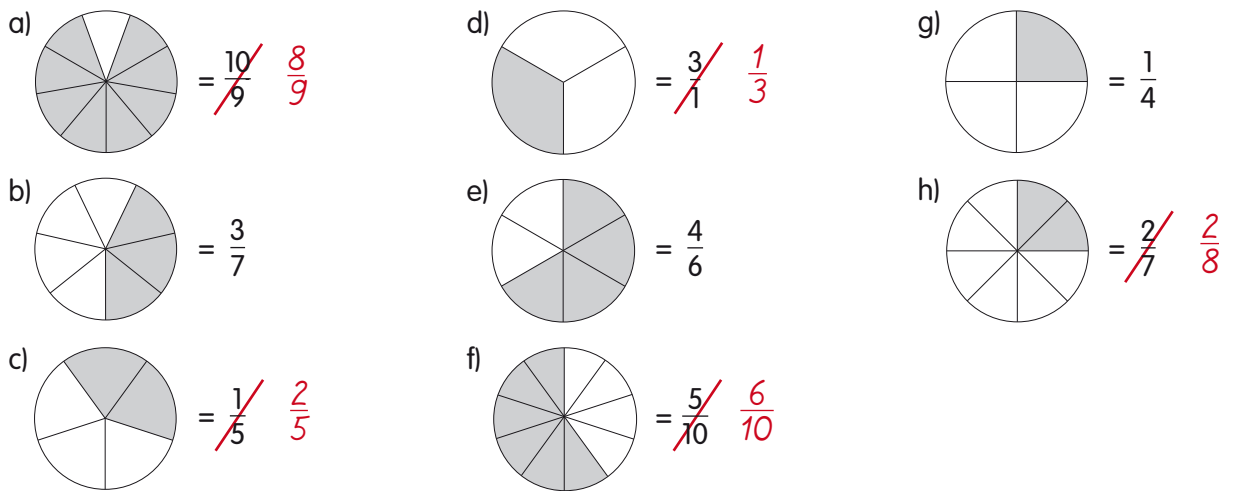


Lösung zur S. 67

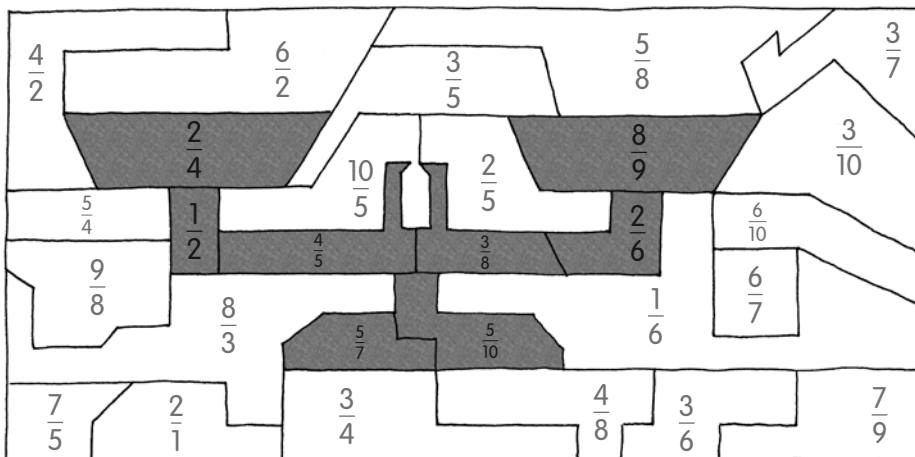
1.



2.

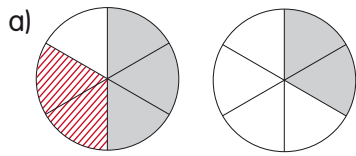


3.

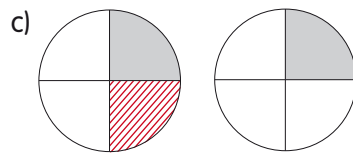


Lösung zur S. 69

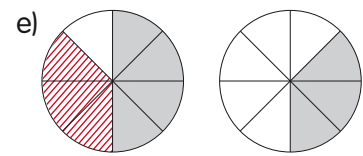
1.



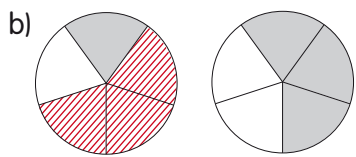
$$\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$$



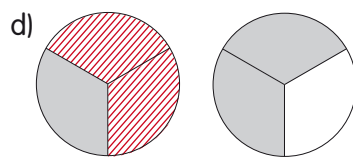
$$\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$$



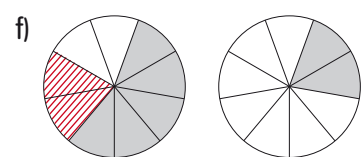
$$\frac{4}{8} + \frac{3}{8} = \frac{7}{8}$$



$$\frac{1}{5} + \frac{3}{5} = \frac{4}{5}$$



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



$$\frac{5}{9} + \frac{2}{9} = \frac{7}{9}$$

2.

a) $\frac{2}{5} + \frac{1}{5} = \frac{3}{5}$

c) $\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$

e) $\frac{3}{6} + \frac{1}{6} = \frac{4}{6}$

g) $\frac{2}{8} + \frac{4}{8} = \frac{6}{8}$

b) $\frac{4}{7} + \frac{2}{7} = \frac{6}{7}$

d) $\frac{5}{9} + \frac{3}{9} = \frac{8}{9}$

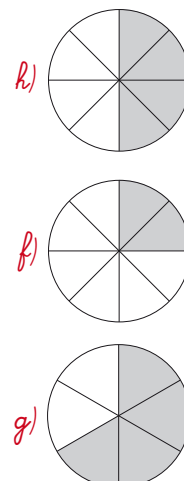
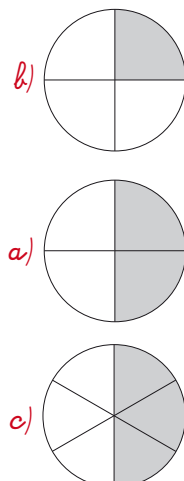
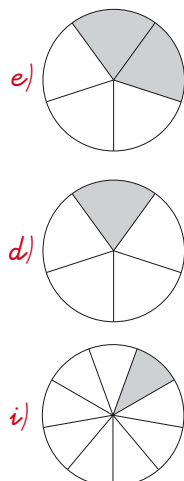
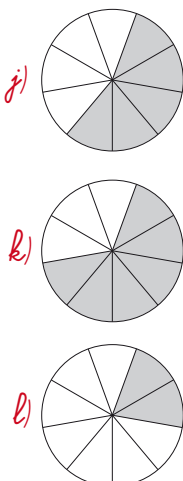
f) $\frac{6}{10} + \frac{2}{10} = \frac{8}{10}$

h) $\frac{1}{7} + \frac{6}{7} = \frac{7}{7}$

Lösung zur S. 70

1.

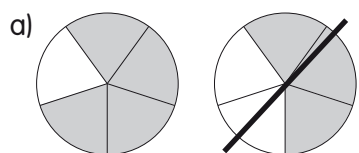
a) $\frac{3}{4} - \frac{1}{4} =$
 b) $\frac{3}{4} - \frac{2}{4} =$
 c) $\frac{5}{6} - \frac{2}{6} =$
 d) $\frac{4}{5} - \frac{3}{5} =$
 e) $\frac{3}{5} - \frac{1}{5} =$
 f) $\frac{6}{8} - \frac{4}{8} =$



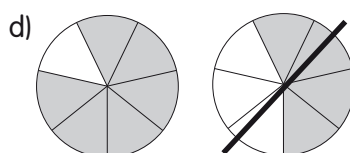
g) $\frac{6}{6} - \frac{2}{6} =$
 k) $\frac{7}{8} - \frac{3}{8} =$
 i) $\frac{6}{9} - \frac{5}{9} =$
 j) $\frac{8}{9} - \frac{3}{9} =$
 l) $\frac{7}{9} - \frac{1}{9} =$
 l) $\frac{4}{9} - \frac{2}{9} =$

Lösung zur S. 70

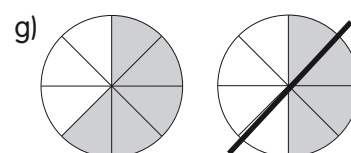
2.



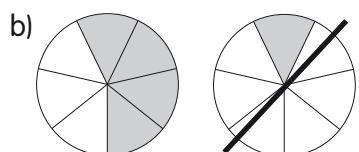
$$\frac{4}{5} - \frac{3}{5} = \frac{1}{5}$$



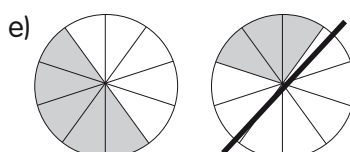
$$\frac{6}{7} - \frac{4}{7} = \frac{2}{7}$$



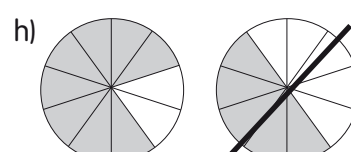
$$\frac{5}{8} - \frac{4}{8} = \frac{1}{8}$$



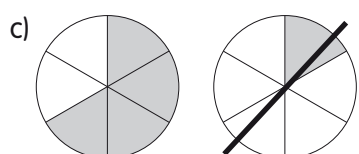
$$\frac{4}{7} - \frac{1}{7} = \frac{3}{7}$$



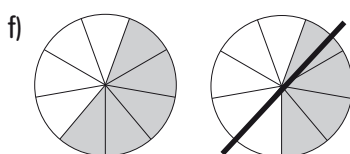
$$\frac{5}{10} - \frac{3}{10} = \frac{2}{10}$$



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



$$\frac{4}{6} - \frac{1}{6} = \frac{3}{6}$$



$$\frac{5}{9} - \frac{4}{9} = \frac{1}{9}$$

Lösung zur S. 73

1.

799 ct	7,99 €
159 ct	3,00 €
590 €	0,50 €
300 ct	590,00 €
29 € 04 ct	92,40 €
30 ct	0,05 €
92 € 40 ct	0,45 €
5 ct	45,00 €
50 ct	0,30 €
45 €	29,04 €
45 ct	1,59 €

2. a) 405 ct = 4,05 € d) 56 € 3 ct = 56,03 € g) 89 € 79 ct = 89,79 € j) 9 € 49 ct = 9,49 €
 b) 45 ct = 0,45 € e) 5 ct = 0,05 € h) 709 ct = 7,09 € k) 24 € 1 ct = 24,01 €
 c) 17 € = 17,00 € f) 50 ct = 0,50 € i) 37 € = 37,00 € l) 890 ct = 8,90 €

Lösung zur S. 73

3. 89 ct; 98 ct; 3,47 € ; 450 ct; 4 € 90 ct; 9,04 € ; 40 € 9 ct; 89 € ; 405 €

$$\begin{array}{r}
 89 \text{ €} = 89,00 \text{ €} \\
 980 \text{ ct} = 9,80 \text{ €} \\
 279 \text{ ct} = 2,79 \text{ €} \\
 \hline
 28,97 \text{ €} \\
 + 89,00 \text{ €} \\
 + 9,80 \text{ €} \\
 + 2,79 \text{ €} \\
 \hline
 \begin{array}{r}
 3 \quad 2 \quad 1 \\
 130,56 \text{ €}
 \end{array}
 \end{array}$$

5.

$$\begin{array}{l}
 89 \text{ € } 79 \text{ ct} - 28,83 \text{ €} = \\
 89,79 \text{ €} - 28,83 \text{ €} =
 \end{array}$$

$$\begin{array}{r}
 89,79 \text{ €} \\
 - 28,83 \text{ €} \\
 \hline
 60,96 \text{ €}
 \end{array}$$

$$\begin{array}{l}
 73 \text{ ct} - 0,37 \text{ €} = \\
 0,73 \text{ €} - 0,37 \text{ €} =
 \end{array}$$

$$\begin{array}{r}
 0,73 \text{ €} \\
 - 0,37 \text{ €} \\
 \hline
 0,36 \text{ €}
 \end{array}$$

$$\begin{array}{l}
 14,07 \text{ €} - 304 \text{ ct} = \\
 14,07 \text{ €} - 3,04 \text{ €} =
 \end{array}$$

$$\begin{array}{r}
 14,07 \text{ €} \\
 - 3,04 \text{ €} \\
 \hline
 11,03 \text{ €}
 \end{array}$$

$$\begin{array}{l}
 730 \text{ ct} - 370 \text{ ct} = \\
 7,30 \text{ €} - 3,70 \text{ €} =
 \end{array}$$

$$\begin{array}{r}
 7,30 \text{ €} \\
 - 3,70 \text{ €} \\
 \hline
 3,60 \text{ €}
 \end{array}$$

$$\begin{array}{l}
 73 \text{ €} - 37 \text{ ct} = \\
 73,00 \text{ €} - 0,37 \text{ €} =
 \end{array}$$

$$\begin{array}{r}
 73,00 \text{ €} \\
 - 0,37 \text{ €} \\
 \hline
 72,63 \text{ €}
 \end{array}$$

$$\begin{array}{l}
 2,87 \text{ €} - 28 \text{ ct} = \\
 2,87 \text{ €} - 0,28 \text{ €} =
 \end{array}$$

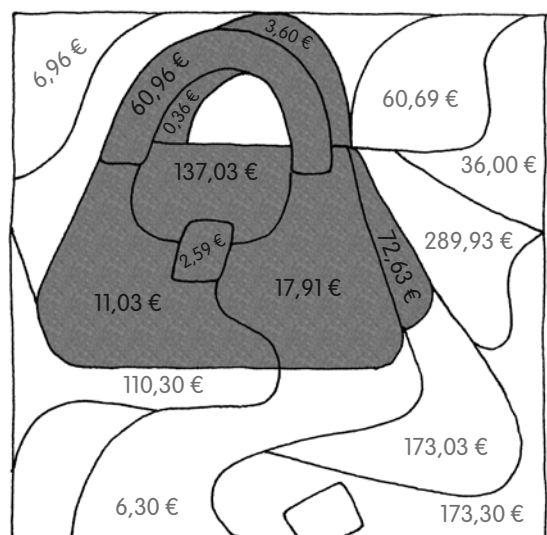
$$\begin{array}{r}
 2,87 \text{ €} \\
 - 0,28 \text{ €} \\
 \hline
 2,59 \text{ €}
 \end{array}$$

$$\begin{array}{l}
 140 \text{ € } 7 \text{ ct} - 3 \text{ € } 4 \text{ ct} = \\
 140,07 \text{ €} - 3,04 \text{ €} =
 \end{array}$$

$$\begin{array}{r}
 140,07 \text{ €} \\
 - 3,04 \text{ €} \\
 \hline
 137,03 \text{ €}
 \end{array}$$

$$\begin{array}{l}
 97 \text{ € } 89 \text{ ct} - 79 \text{ € } 98 \text{ ct} = \\
 97,89 \text{ €} - 79,98 \text{ €} =
 \end{array}$$

$$\begin{array}{r}
 97,89 \text{ €} \\
 - 79,98 \text{ €} \\
 \hline
 17,91 \text{ €}
 \end{array}$$



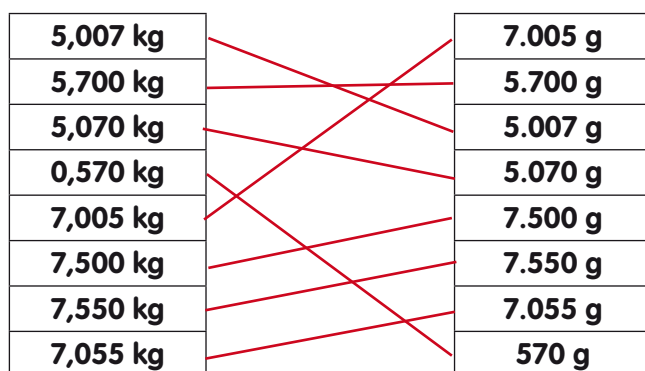
Lösung zur S. 75

1. a) 6 kg c) 780 g e) 7 g g) 7,540 kg i) 5.090 g
 b) 2.708 g d) 30 g f) 5.008 g h) 9,003 kg

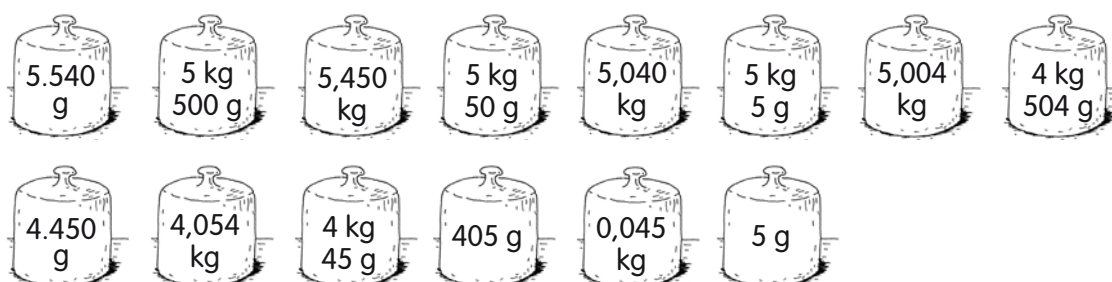
Ganze Zahlen		Dezimalstellen		
Z	E	Zehntel	Hundertstel	Tausendstel
	6	0	0	0
	2	7	0	8
		7	8	0
			3	0
				7
	5	0	0	8
	7	5	4	0
	9	0	0	3
	5	0	9	0

2. a) 700 g = ~~7,00 kg~~ 0,700 kg f) 930 g = ~~9,30 kg~~ 0,930 kg
 b) 4.060 g = 4,060 kg ~~0,406 kg~~ g) 9.801 g = ~~0,9801 kg~~ 9,801 kg
 c) 17 g = 0,017 kg ~~0,170 kg~~ h) 3.003 g = 3,003 kg ~~30,03 kg~~
 d) 9 g = ~~0,090 kg~~ 0,009 kg i) 7 kg 8 g = ~~7,8 kg~~ 7,008 kg
 e) 408 g = ~~4,08 kg~~ 0,408 kg j) 4 kg 35 g = 4,035 kg ~~4,35 kg~~

3.



4.



Lösung zur S. 76

1.

$$\begin{array}{r} \text{a)} \quad 0,070 \text{ kg} \\ + 0,489 \text{ kg} \\ + 3,007 \text{ kg} \\ \hline \quad \quad \quad \text{1 1} \\ \quad \quad \quad 3,566 \text{ kg} \end{array}$$

$$\begin{array}{r} \text{b)} \quad 4,000 \text{ kg} \\ + 3,780 \text{ kg} \\ + 0,030 \text{ kg} \\ \hline \quad \quad \quad \text{1} \\ \quad \quad \quad 7,810 \text{ kg} \end{array}$$

$$\begin{array}{r} \text{c)} \quad 7,809 \text{ kg} \\ + 3,070 \text{ kg} \\ + 0,005 \text{ kg} \\ \hline \quad \quad \quad \text{1} \\ \quad \quad \quad 10,884 \text{ kg} \end{array}$$

$$\begin{array}{r} \text{d)} \quad 4,709 \text{ kg} \\ + 0,890 \text{ kg} \\ + 3,901 \text{ kg} \\ \hline \quad \quad \quad \text{2 1 1} \\ \quad \quad \quad 9,500 \text{ kg} \end{array}$$

2.

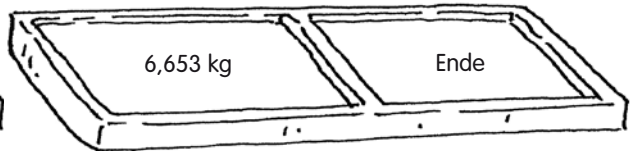
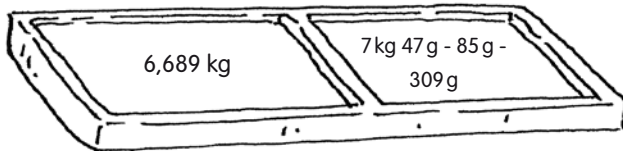
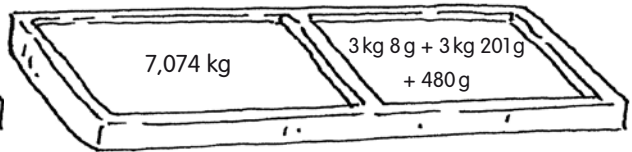
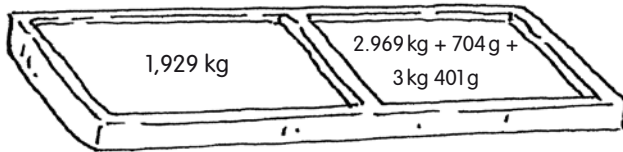
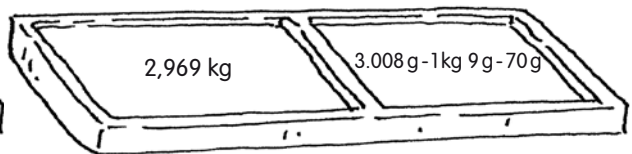
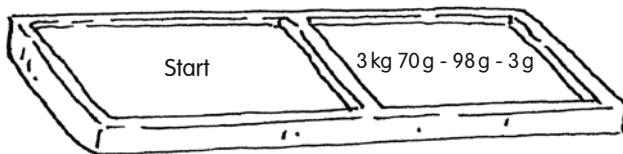
$$\begin{array}{r} \text{a)} \quad 8,901 \text{ kg} \\ - 3,005 \text{ kg} \\ - 0,008 \text{ kg} \\ \hline \quad \quad \quad \text{1 2} \\ \quad \quad \quad 5,888 \text{ kg} \end{array}$$

$$\begin{array}{r} \text{b)} \quad 7,508 \text{ kg} \\ - 0,398 \text{ kg} \\ - 0,019 \text{ kg} \\ \hline \quad \quad \quad \text{2 1} \\ \quad \quad \quad 7,091 \text{ kg} \end{array}$$

$$\begin{array}{r} \text{c)} \quad 4,020 \text{ kg} \\ - 1,002 \text{ kg} \\ - 0,050 \text{ kg} \\ \hline \quad \quad \quad \text{1 1 1} \\ \quad \quad \quad 2,968 \text{ kg} \end{array}$$

$$\begin{array}{r} \text{d)} \quad 9,046 \text{ kg} \\ - 2,003 \text{ kg} \\ - 0,150 \text{ kg} \\ \hline \quad \quad \quad \text{1 1} \\ \quad \quad \quad 6,893 \text{ kg} \end{array}$$

3.

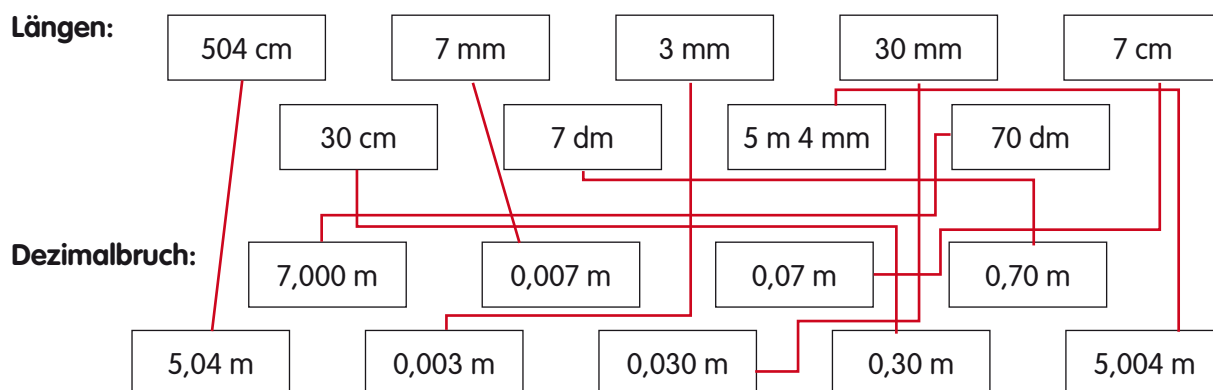


Lösung zur S. 78

1.

m		dm	cm	mm
Z	E	Zehntel	Hundertstel	Tausendstel
			7	0
		9	0	0
	1	5	0	0
	1	0	4	0
	4	0	8	0
		3	0	5
	4	4	8	9
				7
		4	0	5
	9	0	0	4
			6	0
				1

2.



3.

- a) 9 dm = 0,90 m
- b) 9 cm = 0,09 m
- c) 9 mm = 0,009 m
- d) 9 m = 9,00 m
- e) 6 m 4 mm = 6,004 m
- f) 6 m 4 cm = 6,04 m
- g) 6 m 4 dm = 6,40 m
- h) 80 cm = 0,80 m

Lösung zur S. 78

4.

$$\text{a) } 7 \text{ m } 5 \text{ mm} + 903 \text{ mm} = \\ 7,005 \text{ m} + 0,903 \text{ m} =$$

$$\begin{array}{r} 7,005 \text{ m} \\ + 0,903 \text{ m} \\ \hline 7,908 \text{ m} \end{array}$$

$$\text{d) } 805 \text{ cm} + 850 \text{ mm} + 8 \text{ dm} = \\ 8,05 \text{ m} + 0,85 \text{ m} + 0,80 \text{ m} =$$

$$\begin{array}{r} 8,05 \text{ m} \\ + 0,85 \text{ m} \\ + 0,80 \text{ m} \\ \hline 1 1 \\ 9,70 \text{ m} \end{array}$$

$$\text{b) } 40 \text{ dm} + 8 \text{ dm} + 90 \text{ mm} = \\ 4,00 \text{ m} + 0,80 \text{ m} + 0,09 \text{ m} =$$

$$\begin{array}{r} 4,00 \text{ m} \\ + 0,80 \text{ m} \\ + 0,09 \text{ m} \\ \hline 4,89 \text{ m} \end{array}$$

$$\text{e) } 6 \text{ m } 3 \text{ dm} - 2 \text{ m } 3 \text{ cm} + 2 \text{ m } 3 \text{ mm} = \\ 6,300 \text{ m} + 2,030 \text{ m} + 2,003 \text{ m} =$$

$$\begin{array}{r} 6,300 \text{ m} \\ - 2,030 \text{ m} \\ - 2,003 \text{ m} \\ \hline 1 1 \\ 2,267 \text{ m} \end{array}$$

$$\text{c) } 903 \text{ cm} - 20 \text{ dm} - 5 \text{ mm} = \\ 9,030 \text{ m} - 2,000 \text{ m} - 0,005 \text{ m} =$$

$$\begin{array}{r} 9,030 \text{ m} \\ - 2,000 \text{ m} \\ - 0,005 \text{ m} \\ \hline 1 \\ 7,025 \text{ m} \end{array}$$

$$\text{f) } 7 \text{ mm} + 7 \text{ dm} + 7 \text{ cm} = \\ 0,007 \text{ m} + 0,700 \text{ m} + 0,070 \text{ m} =$$

$$\begin{array}{r} 0,007 \text{ m} \\ + 0,700 \text{ m} \\ + 0,070 \text{ m} \\ \hline 0,777 \text{ m} \end{array}$$