

Solutions

How to read the solutions

The solutions are ordered by book page; each exercise appears under its title from the book. Answers follow the reading order in the book: row by row, left to right; multiple values are separated by |. For picture exercises, a small sketch shows the finished solution.

Big numbers up to 1,000,000

Big numbers in the place value chart

1, 2, 3, 4 | 5, 6, 7, 8 | 9, 0, 8, 1 | 2, 4, 5, 6 | 7, 3, 9, 2 | 6, 0, 1, 5
8, 3, 4, 7 | 3, 7, 2, 9 | 4, 5, 8, 6 | 9, 0, 5, 2 | 1, 6, 7, 3 | 2, 9, 4, 8

Sort from small to large!

623456 < 734567 < 891234
24567 < 43210 < 68932
509876 < 512340 < 521430
640999 < 645123 < 645321

Hundred thousands on the number line

100000, 300000, 400000, 600000, 800000, 900000
0, 200000, 400000, 500000, 700000, 900000
50000, 150000, 250000, 300000, 400000, 500000
550000, 650000, 700000, 800000, 850000, 950000
250000, 350000, 400000, 500000, 600000, 650000
300000, 400000, 450000, 550000, 650000, 750000

Compare the big numbers

< | > | <
= | < | >
> | < | <
> | = | <

Rounding to thousands

235000 | 42000 | 128000 | 563000 | 618000 | 748000 | 826000
936000

Splitting even bigger numbers

1, 8, 3, 9, 4, 7 | 5, 0, 2, 6, 7, 1 | 7, 6, 4, 3, 2, 8 | 9, 1, 8, 2, 5, 4
3, 0, 6, 5, 9, 2 | 6, 4, 7, 1, 8, 3 | 8, 2, 9, 4, 1, 0 | 5, 7, 3, 9, 2, 6

Neighbor numbers up to 10,000

1233, 1235 | 3455, 3457
5677, 5679 | 2344, 2346
8900, 8902 | 4320, 4322
6788, 6790 | 9011, 9013

Thousand steps on the number line

341000, 343000, 344000, 346000, 347000, 349000
471000, 472000, 474000, 476000, 478000, 479000
560000, 562000, 564000, 565000, 567000, 569000
691000, 693000, 695000, 696000, 698000, 700000
811000, 812000, 814000, 816000, 817000, 819000
990000, 992000, 993000, 995000, 997000, 999000

Sort from big to small!

743512 > 734521 > 725134
545123 > 534521 > 528765
921345 > 912345 > 908765
387654 > 378654 > 369845

In steps of 10,000 and 100,000

243456
388742
687654
423456

Building the number from the place values

294617 | 538024 | 716493 | 482756 | 903581 | 647290
375942 | 826175

Neighbor numbers up to 1,000,000

245079, 245081

512347, 512349
758341, 758343
999998, 1000000

Who am I?

384519 | 526000 | 800000 | 630006

Almost the same, but not quite

> | < | <
< | > | =
> | < | <
< | < | >

Rounding to ten thousands

30000 | 130000 | 260000 | 550000 | 620000 | 730000 | 860000
920000

Writing big numbers

245080 | 371926 | 456173 | 618347 | 780256 | 999999

Even more number secrets

243784 | 619052 | 840009 | 900006

In steps of 25,000 and 50,000

587182
723471
842134
875213

Rounding to hundred thousands

100000 | 200000 | 300000 | 400000 | 600000 | 700000
800000 | 900000

Written arithmetic

Big numbers semi-written

590, 7, 597 | 690, 7, 697 | 860, 8, 868 | 780, 9, 789 | 880, 7, 887
1060, 9, 1069

Number walls up to 1,000,000

604837, 292625, 312212 | 707926, 369579, 338347
731377, 358333, 373044 | 797066, 414861, 382205
811915, 388892, 423023 | 876523, 465087, 411436

Written addition without a carry

43999 | 66727 | 36777
95939 | 79597 | 99285
97965 | 67635 | 58699

Written subtraction without regrouping

35332 | 34231 | 14345
33432 | 74342 | 74424
64133 | 44334 | 44432

Written multiplying with two places

276 | 416 | 408
294 | 504 | 299

Reverse tasks up to 1,000,000

357177, 354134 | 356890, 376255
568290, 209563 | 216815, 378387
169347, 344143 | 279069, 184341

Written addition with a carry

65761 | 88570 | 92158
75823 | 71287 | 93419

Subtracting with regrouping

35658 | 33666 | 44646

Solutions

36677 | 44559 | 44757

Written division without a remainder

231 | 321 | 212 | 121

Mental arithmetic with numbers up to 10,000

3377 | 5344

4233 | 6455

3165 | 5801

5555 | 4475

Estimating with hundreds

8100 | 3900 | 7800 | 4500 | 8000 | 3100

Written addition: big numbers

618605 | 686597

304719 | 402800

Written subtraction: big numbers

356556 | 336658

366759 | 445586

Dividing by bigger divisors

1626 | 1181 | 1033 | 1091

Mental arithmetic with numbers up to 100,000

33778 | 53133

44435 | 64567

37112 | 57989

46551 | 44742

Estimating with big numbers

710000 | 394000 | 584000 | 337000 | 788000 | 366000

Crossing the ten

3810, 15, 3825 | 7430, 15, 7445 | 7020, 12, 7032

5820, 16, 5836 | 7430, 12, 7442 | 9320, 10, 9330

Even More Number Walls

340189, 343463, 152764 | 340046, 364383, 198546

373439, 381270, 165083 | 415098, 405745, 184275

414641, 441920, 178452 | 457323, 440865, 196348

With bigger numbers

1081 | 1701 | 3612

1972 | 2664 | 1755

More reverse tasks

136437, 361194 | 188929, 320959

203848, 137685 | 202713, 173952

410605, 236531 | 503036, 188186

Written division with a remainder

2552 remainder 2 | 2158 remainder 3 | 1825 remainder 2

1635 remainder 4

Mental arithmetic with numbers up to 1,000,000

366765

541623

342132

555531

Euli has miscalculated again

790619

328656

695654

285971

Subtracting with several regroupings

388889 | 386667

387778 | 385556

Three-digit times two-digit

10764 | 26964

16484 | 20202

Addition with several addends

77269 | 78045 | 82405

Mental arithmetic with six-digit numbers

623741

528729

346617

435688

Estimating with ten thousands

650000 | 430000 | 790000 | 440000 | 810000 | 390000

Euli checks the sums again

738721

715865

427733

308908

Multiplication and Division

Calculating with core tasks

42, 35, 7, 42 | 63, 45, 18, 63

49, 35, 14, 49 | 72, 60, 12, 72

54, 45, 9, 54 | 84, 60, 24, 84

Divided without a remainder

7 | 8 | 5 | 6 | 9 | 4 | 10 | 3 | 13 | 12 | 11 | 14

Dividing with a remainder

6, 1 | 6, 4 | 7, 5 | 9, 2 | 7, 4 | 9, 2 | 5, 5 | 6, 5

Times and divided stories

7500 | 600 | 3600 | 800 | 1008

Multiply the big tables

8

6

9

7

Times before plus

23 | 26

17 | 6

8 | 18

12 | 25

Semi-written multiplying

120, 8, 128 | 120, 20, 140

140, 42, 182 | 120, 15, 135

120, 24, 144 | 150, 35, 185

Divided by tens numbers

2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 2 | 3 | 4 | 3

Times tables

48, 56, 72 42, 48, 66 72, 81, 108

54, 63, 81 63, 72, 99 56, 63, 84

36, 42, 54 56, 64, 88 88, 99, 132

42, 49, 63 84, 96, 132 48, 54, 72

Multiples of the tens number

7

7

8

9

Dividing with a remainder up to 100

4, 3 | 5, 1 | 3, 2 | 8, 5 | 6, 5 | 9, 4 | 7, 2 | 11, 3

Times before plus with brackets

36 | 13

5 | 30

20 | 3

Solutions

45 | 18

Divided with bigger numbers

9 | 8 | 7 | 9 | 12 | 11 | 13 | 19 | 14 | 11 | 19 | 13

Multiplying with crossing the ten

240, 48, 288 | 320, 24, 344

350, 42, 392 | 300, 48, 348

300, 35, 335 | 350, 20, 370

Times with tens numbers

120 | 560

200 | 720

300 | 270

420 | 360

Times tables with tens numbers

40, 80, 120 120, 150, 180 140, 160, 180

60, 120, 180 200, 250, 300 280, 320, 360

70, 140, 210 240, 300, 360 490, 560, 630

90, 180, 270 320, 400, 480 630, 720, 810

Multiples of two-digit numbers

12

9

11

13

Dividing with a remainder up to 1000

20, 5 | 17, 7 | 24, 1 | 26, 2 | 62, 3 | 44, 1 | 47, 2 | 23, 5

Times with hundreds numbers

600 | 4200

1200 | 5600

2000 | 7200

3000 | 5400

Times tables with hundreds numbers

300, 600, 900 800, 1600, 2000 900, 1800, 2100

400, 800, 1200 1200, 2400, 3000 1500, 3000, 3500

600, 1200, 1800 1600, 3200, 4000 2100, 4200, 4900

700, 1400, 2100 1800, 3600, 4500 2400, 4800, 5600

Big times and divided tasks

25200 | 12000 | 38250 | 14000 | 36000

Dividing hundreds and thousands

400 | 600 | 700 | 3200 | 900 | 800 | 300 | 500 | 1800 | 1200

2100 | 200

Times before plus with divided

24 | 51

36 | 8

45 | 18

34 | 60

Quantities and scale

Reading lengths

8 | 13 | 5 | 11 | 6 | 12 | 9 | 10

Kilometers, tonnes and grams

3000 | 4000

6 | 7

5000 | 9000

2 | 8

From the model to reality

300 | 600 | 1100 | 2500 | 900 | 4000 | 1700 | 3000

Measuring and comparing bars

A: 13

B: 8

C: 17

D: 5

A: 16

B: 9

C: 6

D: 12

A: 7

B: 15

C: 11

D: 4

A: 10

B: 14

C: 5

D: 8

Comparing weights

> | = | > | < | < | = | > | <

Days and weeks in the calendar

19. Mai | 21 | 6. Juni | 23. März

Converting meters and centimeters

200 | 5 | 150 | 3 m 75 cm | 400 | 8 | 225 | 6 m 40 cm | 300 | 6

175 | 4 m 25 cm | 600 | 9 | 340 | 5 m 60 cm

Hours, minutes and seconds

120 | 180

3 | 4

300 | 240

6 | 2

From the map to reality

12000 | 15000 | 23000 | 34000 | 27000 | 46000 | 18000 | 35000

Which Scale Fits?

Balanced | right heavier | left heavier | right heavier

right heavier | Balanced | left heavier | left heavier

Comparing liters and milliliters

> | = | < | > | < | = | < | >

Beyond the year in the calendar

15. Januar | 9 | 17. Dezember | 3. Dezember

Full, half and quarter hours

7:00 | 3 | 9:15 | 11:45

5 | 2:15 | 8:45 | 12:00

6:15 | 1 | 10:45 | 4:00

O'clock and half-past times

60 | 30

90 | 120

30 | 150

Adding dollars and cents

\$37 and 44¢ | \$25 and 25¢ | \$38 and 44¢ | \$63 and 95¢

Counting big amounts

\$28 | \$36 and 70¢

\$37 | \$20 and 60¢

\$23 and 50¢ | \$33

\$30 and 20¢ | \$33 and 50¢

To the nearest five minutes

4:10 | 8:25 | 1:50 | 10:05

6:35 | 3:55 | 12:20 | 7:40

9:05 | 2:35 | 5:50 | 11:25

Quarter hours and minutes

45 | 45

40 | 70

40 | 135

Adding up bigger amounts

\$224 and 40¢ | \$138 and 33¢ | \$269 and 94¢ | \$82 and 14¢

Mixed units

4000 | 9

3000 | 6

7000 | 3

Solutions

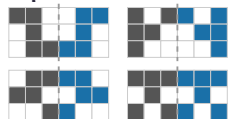
2500 | 43

From reality to the map

3 | 5 | 11 | 13 | 19 | 21 | 27 | 33

Geometry

Complete the mirror images



Counting Shapes

3, 3

3, 3

3, 3

Continue the Pattern



Finding right angles

4 | 1

6 | 2

Adding blocks up

4+4=8 | 8+4=12 | 7+7=14

5+6=11 | 6+9=15 | 5+9=14

7+5=12 | 9+8=17 | 6+4=10

Covering areas

15 | 9

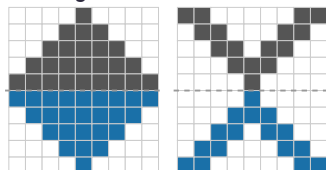
7 | 10

Perimeter and area

U = 16 cm, A = 15 cm² | U = 20 cm, A = 24 cm²

U = 20 cm, A = 16 cm² | U = 24 cm, A = 35 cm²

Mirroring at the across axis



Difficult patterns



Points in the coordinate system

(2 | 3) | (5 | 1) | (1 | 5) | (4 | 4)

Counting shapes exactly

3, 2

4, 3

4, 3

Reading coordinates

(3 | 2) | (6 | 5) | (1 | 4) | (5 | 6)

Right angles on slopes

4 | 3

8 | 1

Tricky areas

12 | 10

8 | 11

Calculating perimeter and area

U = 30 cm, A = 54 cm² | U = 32 cm, A = 48 cm²

U = 34 cm, A = 70 cm² | U = 32 cm, A = 64 cm²

Which one is a cube net?

Yes | No | Yes | No

Yes | No | Yes | No

Counting shapes safely

4, 3

2, 4

3, 2

Reading points safely

(4 | 1) | (2 | 6) | (6 | 3) | (3 | 5)

Corners, edges and faces

6 | 8 | 12 | 8 | 12 | 5

Taking blocks apart

9-2=7 | 9-6=3 | 7-2=5

8-5=3 | 8-2=6 | 8-4=4

7-4=3 | 9-3=6 | 9-5=4

Which faces do you need?

Circle 0, Triangle 0, Square 6, Rectangle 0

Circle 0, Triangle 0, Square 0, Rectangle 6

Circle 0, Triangle 4, Square 1, Rectangle 0

Circle 2, Triangle 0, Square 0, Rectangle 0

Circle 1, Triangle 0, Square 0, Rectangle 0

Circle 0, Triangle 0, Square 0, Rectangle 0

Bigger rectangles and squares

U = 80 cm, A = 384 cm² | U = 60 cm, A = 225 cm²

U = 100 cm, A = 576 cm² | U = 82 cm, A = 378 cm²

Word problems, data and chance

Word problems with two steps

14100 | 680 | 3650 | 2500 | 1080

Certain, possible or impossible?

possible | impossible | certain | possible

Car colors in front of the school

16 | 20 | 18 | 12 | Blue

Double big numbers

30000 | 84000 | 260000 | 480000 | 630000 | 960000 | 50000

140000 | 320000 | 500000 | 610000 | 920000

Finding combinations

9 | 6 | 1 | 3

From the table to the chart

Mystery: 8 | Comic: 12 | Non-fiction: 6 | Fairy tale: 9 | Comic

Word problems with three steps

30100 | 1100 | 16200 | 19400 | 385

Borrowing from the library

15 | 8 | 19 | 12 | Wednesday

Again: certain, possible, impossible

possible | impossible | certain | possible

Combining systematically

12 | 1 | 8

Always the half

20000 | 43000 | 62000 | 132000 | 235000 | 310000 | 34000

46000 | 90000 | 170000 | 270000 | 450000

Visitors at the theme park

Saturday | 8000 | 3300 | Thursday

Word problems with big numbers

212000 | 100000 | 55000 | 155000 | 585000

Solutions

Word problems, data and chance · continued

Tickets sold

74000 | 25000 | 31000 | 3500

Counting all possibilities

12 | 9 | 1

Fractions and parts

Which fraction is colored?

$\frac{1}{2}$ | $\frac{1}{4}$ | $\frac{3}{4}$ | $\frac{1}{3}$

Half and a quarter

20 | 13 | 250 | 9 | 10 | 6 | 50 | 9

Which fraction is bigger?

$<$ | $>$ | $>$ | $=$ | $<$ | $>$

Fractions on rectangles and bars

$\frac{1}{2}$ | $\frac{1}{4}$ | $\frac{2}{3}$ | $\frac{3}{4}$ | $\frac{1}{2}$ | $\frac{1}{3}$ | $\frac{1}{4}$ | $\frac{3}{4}$

Thirds and fifths

30 | 9 | 200 | 50 | 9 | 50 | 20 | 16

Same number of parts, different size

$>$ | $<$ | $<$ | $>$ | $<$ | $>$

Fifths and sixths

$\frac{1}{5}$ | $\frac{2}{5}$ | $\frac{3}{5}$ | $\frac{4}{5}$ | $\frac{1}{6}$ | $\frac{5}{6}$ | $\frac{2}{6}$ | $\frac{3}{5}$

Several parts at once

300 | 400 | 150 | 180 | 300 | 80 | 360 | 200

Equal or not?

$=$ | $=$ | $>$ | $<$ | $=$ | $>$

Eighths and tenths

$\frac{1}{10}$ | $\frac{3}{8}$ | $\frac{5}{8}$ | $\frac{7}{10}$ | $\frac{7}{8}$ | $\frac{1}{8}$ | $\frac{9}{10}$ | $\frac{3}{10}$

Sixths and eighths

50 | 90 | 100 | 280 | 50 | 150 | 150 | 500

A close call

$<$ | $<$ | $>$ | $=$ | $>$ | $<$

Puzzles and Games

Magic square - sums 60, 90, 120

22, 24, 16, 18 | 27, 31, 30, 33 | 39, 43, 37, 41

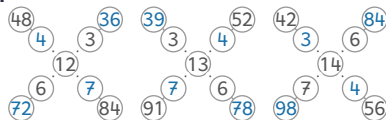
Magic triangles with tens numbers

10, 30, 20 | 10, 40, 50 | 20, 60, 10 | 40, 30, 60

Big math square

13	82	89	29	89	59	86	81	32
78	27	37	51	16	75	12	37	34
67	24	22	74	13	62	75	41	59

Spider wheel - times tables



Arrow arithmetic up to 1000

+89, -321, +232, +143, +89
 -135, +401, -266, -131, -135
 +125, -401, +276, +151, +125
 -189, +547, -358, -169, -189
 +169, -487, +318, +149, +169
 -134, +443, -309, -175, -134

Calculate with the cards

593 | 779 | 683
 222 | 433 | 317
 682 | 759 | 675
 255 | 278 | 217

Find the secret ingredient!

1650, 1370, 1990, 1640, 2050 → yes
 1600, 1950, 1050, 2250, 1600 → no
 1600, 1350, 1800, 2300, 2050 → yes

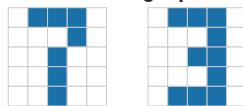
Find the way out of the dungeon!

68, 62, 69, 70, 64, 67, 76, 81 | 63, 57, 59, 64, 65, 66, 67, 70, 67

Find the right path!

330+150+247=727 | 410+145+308=863
 275+210+451=936 | 540+210+162=912
 418+220+150=788 | 615+175+248=1038

Color in the magic picture



Magic square - sums 210, 240, 270

66, 71, 68, 69 | 79, 80, 76, 82 | 94, 92, 88, 86

Magic triangles with eights numbers

16, 48, 32, 24 | 16, 48, 24, 32 | 24, 48, 56, 40 | 40, 24, 56, 16

Boss level: Grade 4

345+238=583, 427+152=579, 583+579=1162
 462+219=681, 344+236=580, 681+580=1261
 573+328=901, 455+244=699, 901+699=1600
 248+135=383, 227+140=367, 383+367=750, 750+150=900,
 900+1250=2150
 352+138=490, 245+130=375, 490+375=865, 865+135=1000,
 1000+1500=2500
 465+242=707, 258+135=393, 707+393=1100, 1100+250=1350,
 1350+2500=3850