

*Study & Master*

# Maths Online

Solutions **Grade 6**



## Worksheet 1: Bigger numbers

### Activity 1

1.

10 000	20 000	30 000	40 000	50 000
60 000	70 000	80 000	90 000	100 000
110 000	120 000	130 000	140 000	150 000
160 000	170 000	180 000	190 000	200 000
210 000	220 000	230 000	240 000	250 000
260 000	270 000	280 000	290 000	300 000
310 000	320 000	330 000	340 000	350 000

2. + 10 000s

3. + 50 000s

4. 3 100 3 200 3 300 3 400 3 500

5. 7

6. 7

7. 150 000

8. 60 000

9. 260 000

10. Learners' own work

Example of a chosen number: 350 000

a) 350 001

b) 351 000

c) 850 000

d) 325 000

## Worksheet 2: Counting

### Activity 1

R8 550

# Topic 1: Numbers, operations and relationships

## Activity 2

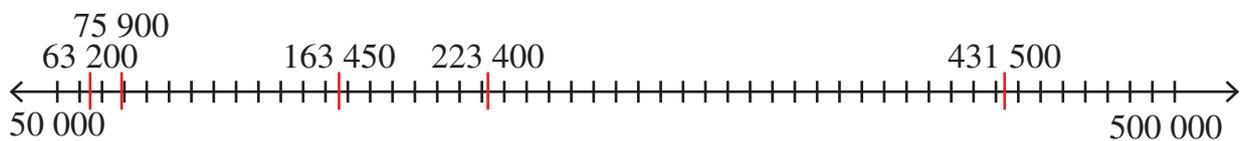
300; 400; 550; 1 550; 3 050; 3 075; 3 100; 3 175; 3 225; 3 375; 3 450

## Activity 3

1. 99 000; 98 000; 97 000; 96 000; 95 000; 94 000; 93 000; 92 000; 91 000; 90 000
2. 55 000; 65 000; 75 000
3. 25 000; 75 000; 125 000; 175 000; 225 000; 275 000

## Worksheet 3: Place value (1)

### Activity 1



### Activity 2

1.  $400\,000 + 50\,000 + 3\,000 + 400 + 50 + 3$
2.  $700\,000 + 60\,000 + 9\,000 + 500 + 4$

### Activity 3

1.  $3\,000\,000 + 900\,000 + 50\,000 + 3\,000 + 200 + 80 + 5$
2.  $300\,000 + 20\,000 + 100 + 50$
3.  $1\,000\,000 + 500\,000 + 80\,000 + 7\,000 + 200 + 30 + 6$
4.  $2\,000\,000 + 800\,000 + 90\,000 + 6\,000 + 500 + 20 + 3$

## Worksheet 4: Place value (2)

### Activity 1

1. 800 130
2. 525 007
3. 68 106
4. 209 871
5. 374 108

### Activity 2

1. 46 708
2. 2 560 460
3. 3 459 057
4. 6 901 073

# Topic 1: Numbers, operations and relationships

## Activity 3

1. 200
2. 20 000
3. 20 000 000
4. 200 000
5. 20

## Activity 4

Missing answers are underlined.

1. 5 832 015
2. 100 000 + 20 000 + 400 + 90 + 2
3. 700 000 + 60 000 + 9 000 + 400 + 50 + 4
4. 400 000 + 50 000 + 6 000 + 300 + 80 + 7
5. 100 000 000 + 200 000 + 50 000 + 6 000 + 700 + 40 + 8

## Worksheet 5: Comparing and ordering numbers (1)

### Activity 1

2 796 187    1 769 918    1 679 819    1 189 679    976 891    891 976  
698 197    198 179

### Activity 2

1. A. 6 350      B. 8 350      C. 9 350
2. A. 225 000    B. 225 300    C. 225 400
3. A. 346 500    B. 347 000    C. 347 500    D. 348 000

### Activity 3

1. 328 158 < 330 000
2. 415 603 < 416 503
3. 706 183 = 706 183
4. 1 526 389 < 1 526 450
5. 650 210 < 752 010

## Worksheet 6: Comparing and ordering numbers (2)

### Activity 1

- 1 862      27 816      118 484      390 757      581 730  
582 646      945 090      1 219 912      1 246 700      2 381 741
- a)**  $500\,000 + 80\,000 + 1\,000 + 700 + 30$   
**b)**  $1\,000\,000 + 200\,000 + 10\,000 + 9\,000 + 900 + 10 + 2$   
**c)**  $2\,000\,000 + 300\,000 + 80\,000 + 1\,000 + 700 + 40 + 1$
- 464 162 km<sup>2</sup>
- 118 484
- 1 045 090
- 1 610 669 km<sup>2</sup>
- a)** 390 800  
**b)** 391 000  
**c)** 400 000

## Worksheet 7: Properties of whole numbers

### Activity 1

- 59 323 (orange balloon) + 21 891 (pink balloon) = 81 214
- 321 000 (blue balloon); 43 900 (yellow balloon)
- 321 000 (blue balloon) – 220 564 (green balloon) = 100 436
- 59 323 (orange balloon) + 125 487 (red balloon) = 184 810
- 321 000 (blue balloon); 43 900 (yellow balloon)

### Activity 2

- 40 000
- 37 500
- 24 999
- 26 000
- 35 000
- 125 000
- 10

## Worksheet 8: Quick calculations

### Activity 1

- |             |              |               |            |
|-------------|--------------|---------------|------------|
| 1. 300 000  | 2. 3 000 000 | 3. 30 000 000 | 4. 50      |
| 5. 10 000   | 6. 1 000     | 7. 8          | 8. 1 000   |
| 9. 100      | 10. 10       | 11. 100       | 12. 10     |
| 13. 30 000  | 14. 60 000   | 15. 300 000   | 16. 48 000 |
| 17. 78 000  | 18. 49 999   | 19. 49 000    | 20. 20 000 |
| 21. 25 000  | 22. 65 000   | 23. 5 000     | 24. 40 000 |
| 25. 140 000 | 26. 240 000  |               |            |

## Worksheet 9: Number names and rounding

### Activity 1

- Earth 149 600 000 km  
Venus 108 200 000 km  
Mars 227 900 000 km  
Saturn 1 433 500 000 km  
Uranus 2 872 500 000 km  
Mercury 57 900 000 km  
Jupiter 778 600 000 km  
Neptune 4 495 100 000 km
- Mercury – 57 910 000 km  
Venus – 108 210 000 km  
Earth – 149 600 000 km  
(Earth's moon, which will be more or less the same distance from the sun as Earth)  
Mars – 227 920 000 km  
Jupiter – 778 570 000 km  
Saturn – 1 433 530 000 km  
Uranus – 2 872 460 000 km  
Neptune – 4 495 060 000 km

# Topic 1: Numbers, operations and relationships

## Activity 2

- One hundred and eight million, two hundred and ten thousand.
  - Two hundred and twenty-seven million, nine hundred and twenty thousand.
  - Fifty-seven million, nine hundred and ten thousand.
  - Five hundred and nine and six hundred and fifty thousandths.
  - Seven and six hundred and eight thousandths.
  - Nine hundred and thirty and ten thousandths.
- |            |           |
|------------|-----------|
| a) 9 191   | b) 1 380  |
| c) 50 290  | d) 70 600 |
| e) 972 003 |           |

## Activity 3

- 41 386
- One hundred and fifty-four thousand, seven hundred and sixty seven.
- 90 000

## Worksheet 10: Prime numbers

### Activity 1

The prime numbers are:

2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97

### Extension activity 2

- 34
  - 37
  - 79
  - 13
  - 147
  - 111
- No;  $11 - 7 = 4$  (not a prime number);  $79 - 73 = 6$  (not a prime number).
- Even; except for the first two prime numbers:  $3 - 2 = 1$ , which is an odd number.

## Worksheet 11: Multiples and factors

### Activity 1

Multiples of 5: 10, 15, 20, 50

Factors of 116: 29, 58

Numbers more than 20: 24, 57, 91

Multiples of 25: 25, 75, 125, 175, 200

Factors of 72: 4, 6, 12, 18

Prime numbers: 2, 3, 5, 13, 19, 31

## Worksheet 12: Addition (1)

### Activity 1

1. 780 000

2. 15 800 000

3. 2 000 000

4. 6 784 000

### Activity 2

1.  $529\,700 + 135\,300 + 31 + 53 = 665\,000 + 84 = 665\,084$

2.  $58\,900 + 3\,700 + 60 + 26 = 62\,600 + 86 = 62\,686$

3.  $149\,800 + 319\,000 + 40 + 97 = 468\,800 + 137 = 468\,937$

4.  $515\,000 + 48\,000 + 773 + 327 = 563\,000 + 800 + 300 - 27 + 27 = 564\,100$

5.  $6\,020\,000 + 2\,750\,000 + 824 + 310 = 8\,770\,000 + 800 + 300 + 24 + 10$   
 $= 8\,770\,000 + 1\,100 + 34 = 8\,771\,134$

6.  $206\,100 + 850 + 35 - 1 = 206\,950 + 34 = 206\,984$

### Activity 3

1. R1 661 924

2. R145 000

3. 1 471 499 followers.

4. R1 539 139

## Worksheet 13: Addition (2)

### Activity 1

- $800\ 000 + 30\ 000 + 9\ 000 + 400 + 40$   
 $700\ 000 + 6\ 000 + 100 + 60 + 5$   
 $= 1\ 500\ 000 + 30\ 000 + 15\ 000 + 500 + 100 + 5$   
 $= 1\ 545\ 605$
- $700\ 000 + 4\ 000 + 700 + 10 + 9$   
 $200\ 000 + 50\ 000 + 5\ 000 + 500 + 10 + 1$   
 $= 900\ 000 + 50\ 000 + 9\ 000 + 1\ 200 + 20 + 10$   
 $= 960\ 230$
- $200\ 000 + 20\ 000 + 1\ 000 + 700 + 20 + 9$   
 $400\ 000 + 40\ 000 + 7\ 000 + 100 + 30 + 5$   
 $= 600\ 000 + 60\ 000 + 8\ 000 + 800 + 50 + 14$   
 $= 668\ 864$
- $2\ 000\ 000 + 800\ 000 + 90\ 000 + 6\ 000 + 200$   
 $900\ 000 + 50\ 000 + 600 + 20 + 5$   
 $= 2\ 000\ 000 + 1\ 700\ 000 + 140\ 000 + 6\ 000 + 800 + 20 + 5$   
 $= 3\ 846\ 825$

### Activity 2

- |            |              |              |
|------------|--------------|--------------|
| 1. 206 616 | 2. 1 128 212 | 3. 923 326   |
| 4. 80 443  | 5. 1 238 714 | 6. 2 436 000 |

### Activity 3

- |            |            |
|------------|------------|
| 1. 12 886  | 2. 129 459 |
| 3. 105 967 | 4. 200 639 |

### Activity 4

- 601 303 members
- 10 271 140 books
- 5 346 035 people

## Worksheet 14: Subtraction (1)

### Activity 1

1. Estimation = 84 000  
 $103\ 000 - 21\ 000 = 82\ 000$   
 $527 - 105 = 422$   
 $82\ 000 + 422$   
 $= 82\ 422$
2. Estimation = 11 000  
 $46\ 300 - 35\ 200 = 11\ 100$   
 $25 - 14 = 11$   
 $11\ 100 + 11$   
 $= 11\ 111$
3. Estimation = 302 000  
 $513\ 500 - 211\ 400 = 302\ 100$   
 $67 - 36 = 31$   
 $302\ 100 + 31$   
 $= 302\ 131$
4. Estimation = 102 000  
 $710\ 000 - 610\ 000 = 100\ 000$   
 $3\ 000 - 987 = 2\ 013$   
 $100\ 000 + 2\ 013$   
 $= 102\ 013$
5. Estimation = 154 000  
 $456\ 700 - 302\ 400 = 154\ 300$   
 $81 - 18 = 63$   
 $154\ 300 + 63$   
 $= 154\ 363$
6. Estimation = 126 600  
 $337\ 900 - 211\ 300 = 126\ 600$   
 $126\ 600 - 5 = 126\ 595$   
 $126\ 595 - 44$   
 $= 126\ 551$

# Topic 1: Numbers, operations and relationships

## Activity 2

1. 479 809
2. 348 317
3. 1 320 741
4. 3 338 571

## Activity 3

1. 5 269 945 km<sup>2</sup>
2. 211 900 km<sup>2</sup>
3. 391 220 km<sup>2</sup>

## Worksheet 15: Subtraction (2)

### Activity 1

1. 134 412
2. 622 200
3. 263 792
4. 772 441
5. 791 442

### Activity 2

1. R159 380
2. 525 653 trees
3. 148 020 ha
4. R6 896 990
5. 59 580 airplanes

### Extension activity

The two numbers are 179 890 and 145 970.

## Worksheet 16: Multiplication (1)

### Activity 1

1.  $12 \times 6 = 72$ ;  $48 \div 12 = 4$ ;  $6 \times 4 = 24$
2.  $6 \times 8 = 48$ ;  $6 \times 9 = 54$ ;  $8 \times 9 = 72$
3.  $7 \times 3 = 21$ ;  $24 \div 3 = 8$ ;  $7 \times 8 = 56$
4.  $9 \times 4 = 36$ ;  $9 \times 6 = 54$ ;  $6 \times 4 = 24$
5.  $63 \div 7 = 9$ ;  $21 \div 7 = 3$ ;  $9 \times 3 = 27$
6.  $28 \div 7 = 4$ ;  $4 \times 6 = 24$ ;  $12 \div 6 = 2$ ;  $7 \times 2 = 14$
7.  $32 \div 8 = 4$ ;  $20 \div 4 = 5$ ;  $72 \div 8 = 9$ ;  $9 \times 5 = 45$
8.  $11 \times 4 = 44$ ;  $24 \div 4 = 6$ ;  $6 \times 3 = 18$ ;  $11 \times 7 = 77$ ;  $18 \div 6 = 3$
9.  $5 \times 3 = 15$ ;  $21 \div 3 = 7$ ;  $7 \times 4 = 28$ ;  $36 \div 4 = 9$ ;  $45 \div 9 = 5$

## Topic 1: Numbers, operations and relationships

### Activity 2

- |        |        |           |         |
|--------|--------|-----------|---------|
| 1. 20  | 2. 66  | 3. 27     | 4. 40   |
| 5. 110 | 6. 57  | 7. 50     | 8. 132  |
| 9. 270 | 10. 70 | 11. 1 320 | 12. 540 |

### Worksheet 17: Multiplication (2)

#### Activity 1

- |           |           |           |          |
|-----------|-----------|-----------|----------|
| 1. 150    | 2. 350    | 3. 35 000 | 4. 5 600 |
| 5. 56 000 | 6. 1 400  | 7. 6 400  | 8. 2 000 |
| 9. 10 000 | 10. 4 800 | 11. 5 400 | 12. 600  |

#### Activity 2

- 1 200; 2 000; 2 800; 5 400; 11 200
- 600; 1 200; 1 800; 3 600; 7 200
- 300; 600; 900; 1 800; 3 600
- 2 400; 4 800; 6 400; 12 800; 25 600

### Worksheet 18: Multiplication (3)

#### Activity 1

$$\begin{aligned}(10 + 5) \times 123 \\ &= (10 \times 123) + (5 \times 123) \\ &= 1\,230 + 615 \\ &= 1\,845\end{aligned}$$

#### Activity 2

- $$\begin{aligned}45 \times 62 \\ &= (40 + 5)(60 + 2) \\ &= 2\,400 + 80 + 300 + 10 \\ &= 2\,790\end{aligned}$$
- $$\begin{aligned}37 \times 18 \\ &= (30 + 7)(10 + 8) \\ &= 300 + 240 + 70 + 56 \\ &= 666\end{aligned}$$

## Topic 1: Numbers, operations and relationships

3.  $123 \times 16$   
 $= (10 + 6) \times 123$   
 $= 1230 + 738$   
 $= 1\ 968$
4.  $90(300 + 31)$   
 $= 27\ 000 + 2\ 790$   
 $= 29\ 790$
5.  $278 \times 68$   
 $(200 + 78)(60 + 8)$   
 $= 12\ 000 + 1\ 600 + 4\ 680 + 624$   
 $= 18\ 904$
6.  $85 \times 191$   
 $(80 + 5)(100 + 91)$   
 $= 8\ 000 + 7\ 280 + 500 + 455$   
 $= 16\ 235$

### Activity 3

1. 1 170 slices of cake                      2. 288 km  
3. 616 chairs                                      4. 4 725  
5. 5 292 pancakes

## Worksheet 19: Multiplication (4)

### Activity 1

1.  $1\ 500 \rightarrow 3\ 000 \rightarrow 6\ 000 \rightarrow 12\ 000$   
2.  $2\ 850 \rightarrow 5\ 700 \rightarrow 11\ 400 \rightarrow 22\ 800$   
3.  $15\ 000 \rightarrow 7\ 500 \rightarrow 3\ 750 \rightarrow 1\ 875$   
4.  $14\ 400 \rightarrow 7\ 200 \rightarrow 3\ 600 \rightarrow 1\ 800$

### Activity 2

1.  $24 \times 4 = 12 \times 8 = 96$                       2.  $18 \times 5 = 9 \times 10 = 90$   
3.  $14 \times 6 = 7 \times 12 = 84$                       4.  $25 \times 8 = 50 \times 4 = 200$   
5.  $56 \times 5 = 28 \times 10 = 280$                       6.  $45 \times 4 = 90 \times 2 = 180$

## Topic 1: Numbers, operations and relationships

7.  $4 \times 41 = 2 \times 82 = 164$

9.  $75 \times 6 = 150 \times 3 = 450$

8.  $24 \times 15 = 12 \times 30 = 360$

10.  $12 \times 15 = 6 \times 30 = 180$

### Activity 3

1. 64

256

560

730

1 180

3. 336

500

1 100

1 120

1 980

2. 40

80

120

240

480

## Worksheet 20: Multiplication (5)

### Activity 1

1. 720

1 200

600

1 080

1 440

3. 60

90

150

210

300

5.  $6 \times 120 = 720$

6.  $12 \times 99 = 1 188$

7.  $10 \times 30 = 300$

2. 396

594

792

1 188

1 496

4. 60

90

150

210

300

# Topic 1: Numbers, operations and relationships

## Activity 2

1. 4 500
2. 42 000
3. 30 000
4. 240 000
5. 1 080 000
6. 12 000
7. 1 000
8. 36

## Activity 3

1. 6 936
2. 43 000
3. 5 589
4. 47 850
5. 10 387
6. 341 014

## Activity 4

1. 7 and 8
2. 2, 3 and 5

## Extension activity

3 and 5

## Worksheet 21: Multiplication (6)

### Activity 1

1.  $5 \times 5 \times 2 \times 6 = 10 \times 30 = 300$
2.  $8 \times 4 \times 2 \times 107 = 4 \times 2 \times 856 = 6\ 848$
3.  $3 \times 4 \times 43 \times 8 \times 7 = 96 \times 301 = 28\ 896$
4.  $4 \times 32 \times 8 \times 9 = 4 \times 256 \times 9 = 1\ 024 \times 9 = 9\ 216$
5.  $40 \times 74 = 10 \times 4 \times 2 \times 37 = 370 \times 8 = 2\ 960$
6.  $12 \times 3 \times 12 \times 4 = 144 \times 12 = 1\ 728$
7.  $5 \times 11 \times 4 \times 29 = 20 \times 319 = 6\ 380$
8.  $123 \times 9 = 3 \times 41 \times 9 = 3 \times 369 = 1\ 107$

### Activity 2

1. 471 096
2. 740 945
3. 1 455 762
4. 1 454 403

### Activity 3

1. R233,75
2. 3 924 ants
3. 24 231
4. R243 828
5. 46 320 tiles

## Worksheet 22: Division (1)

### Activity 1

1. R1 289
2. 224 books
3. 43 seedlings
4. 215 supporters

### Activity 2

1. 11
2. 3
- 19
- 4
- 23
- 8
- 26
- 16
- 30
- 32
- 37
3. 4
4. 2
- 24
- 4
- 13
- 48
- 78
- 72
- 30
- 21

### Activity 3

1. 10
2. 10
3. 4
4. 4
5. 9
6. 200
7. 90
8. 5

## Worksheet 23: Division (2)

### Activity 1

1.  $500 \div 5$  and  $85 \div 5 = 100 + 17 = 117$
2.  $700 \div 7$  and  $56 \div 7 = 100 + 8 = 108$
3.  $700 \div 7$  and  $42 \div 7 = 100 + 6 = 106$
4.  $900 \div 9$  and  $63 \div 9 = 100 + 7 = 107$
5.  $900 \div 9$  and  $81 \div 9 = 100 + 9 = 109$
6.  $500 \div 5$  and  $55 \div 5 = 100 + 11 = 111$

## Topic 1: Numbers, operations and relationships

### Activity 2

1. 45 books
2. 34 years
3. R364
4. R695
5. R273

### Activity 3

- |       |       |
|-------|-------|
| 1. 52 | 2. 52 |
| 50    | 50    |
| 54    | 54    |
| 58    | 58    |
| 56    | 56    |
| 3. 64 | 4. 64 |
| 62    | 62    |
| 66    | 66    |
| 63    | 63    |
| 65    | 65    |

Pattern: Dividing by a number gives the same quotients as dividing by the same number's factors.

## Worksheet 24: Division (3)

### Activity 1

- |                        |       |        |        |
|------------------------|-------|--------|--------|
| 1. 25                  | 2. 32 | 3. 22  | 4. 23  |
| 5. 52                  | 6. 98 | 7. 285 | 8. 963 |
| 9. 1 717 remainder 277 |       |        |        |

### Activity 2

1. 598 remainder 2
2.  $m = 31\ 894$
3. No, 30 buses are not enough, as  $986 \div 32 = 30$  remainder 26. So, they will need 31 buses.
4. 40 learners in each row.

## Worksheet 25: Mixed operations

### Activity 1

1. a) 6 300                      b) 900                      c) 4 496  
d) 99 792                      e) 42 159                      f) 255 255
2. a) 4 000                      b) 81 000                      c) 360 000  
d) 110 000                      e) 560 000                      f) 1 080 000
3. a) 1 052                      b) 1 846                      c) 794  
d) 17 500                      e) 1 900                      f) 5 140
4. a) 880                      b) 1 280                      c) 350  
d) 924                      e) 270                      f) 1 100  
g) 75 775                      h) 1 514 490
5. a) 8                      b) 8                      c) 6  
d) 700 000                      e) 1 000                      f) 110
6. a) 103                      b) 118                      c) 16  
d) 351                      e) 140                      f) 1 053
7. 2 500 → 5 000 → 500 000 → 250 → 610 → 5 → 750 → 375

## Worksheet 26: Rate

### Activity 1

1.	<b>No of books</b>	10	20	25	50	100	150	200	300
	<b>No of sheets</b>	50	1 000	1 250	2 500	5 000	7 500	10 000	15 000

### Activity 2

1.	<b>Distance (km)</b>	0	10	20	50	100	200	300	500
	<b>Cost (R)</b>	150	270	390	750	1 350	2 550	3 750	6 150

2. R390

3. 175 km

4.	<b>Distance (km)</b>	0	10	20	50	100	200	300	500
	<b>Cost (R)</b>	0	150	300	750	1 500	3 000	4 500	7 500

5. For short distances, up to 50 km, Fast and Furious Scooters will be the better option, but for longer distances, from 100 km, Zoom Scooters will be the better option.

## Worksheet 27: Ratio

### Activity 1

- 18 vehicles
- 6 red cars
- 4 blue cars
- $6 : 4 = 3 : 2$
- $\frac{3}{2}$
- $3 : 2$
  - $3 ; 3$
  - $10 : 3$  or  $13 : 3$  (police cars included)
  - $3 ; 6 = 1 : 2$
- $2 : 3 =$  buses : vans as well as blue cars : red cars
  - Van
  - 2 red cars

### Activity 2

- $3 : 1$
- $1 : 3$
- 6 cups of green paint
- 4 cups of black paint

### Activity 3

- $160 : 140 = 8 : 7$   
 $\frac{160}{140} = \frac{8}{7}$   
Or, their heights in metres are  $1,6 : 1,4 = 0,8 : 0,7$
- $8 : 7$
- For every 8 cm of Anansi's height, Busi's height is 7 cm.
- $6 : 5 = 90 : 75$   
Five years ago Busi's height was 75 cm.

### Extension activity

Liakat : Ahmed =  $3 : 4$

Liakat should get R27 and Ahmed should get R36.

## Worksheet 28: Ordering and comparing fractions (1)

### Activity 1

1. =                      2. >                      3. >                      4. <  
 5. =                      6. >                      7. <                      8. <

### Activity 2

1. a) A.  $6\frac{2}{5}$             B.  $6\frac{4}{5}$             C. 7            D.  $7\frac{2}{5}$             E.  $7\frac{3}{5}$   
 b) A. 8            B.  $8\frac{1}{10}$             C.  $8\frac{3}{10}$             D.  $8\frac{4}{10}$             E.  $8\frac{6}{10}$
2. 11;  $11\frac{2}{8}$ ;  $11\frac{1}{2}$ ;  $11\frac{2}{3}$ ;  $11\frac{7}{9}$ ;  $11\frac{5}{6}$

### Activity 3

1. Rashieda eats more;  $\frac{1}{3} > \frac{3}{12}$   
 2. Cynthia owns more marbles;  $\frac{2}{6} > \frac{2}{7}$   
 3. Joanne takes the longest;  $\frac{4}{5} > \frac{3}{4} > \frac{2}{3}$

## Worksheet 29: Ordering and comparing fractions (2)

### Activity 1

1.  $\frac{3}{8}$ ,  $\frac{9}{16}$ ,  $\frac{7}{12}$ ,  $\frac{5}{6}$                       2.  $\frac{11}{21}$ ,  $\frac{9}{14}$ ,  $\frac{5}{6}$ ,  $\frac{5}{2}$   
 3.  $\frac{16}{25}$ ,  $\frac{4}{5}$ ,  $\frac{13}{15}$ ,  $\frac{9}{10}$                       4.  $\frac{1}{6}$ ,  $\frac{13}{24}$ ,  $\frac{7}{12}$ ,  $\frac{5}{8}$   
 5.  $\frac{1}{3}$ ,  $\frac{5}{12}$ ,  $\frac{4}{9}$ ,  $\frac{7}{10}$

### Activity 2

1.  $\frac{5}{10}$ ,  $\frac{10}{20}$ ,  $\frac{6}{12}$                       2.  $\frac{6}{8}$   
 3.  $\frac{5}{10}$ ,  $\frac{3}{5}$  and  $\frac{3}{4}$                       4.  $\frac{9}{4}$ ,  $2\frac{7}{15}$   
 5.  $\frac{20}{100}$

### Extension activity

1.  $\frac{4}{16} = \frac{1}{4}$ . So, their portions were the same size.  
 2.  $\frac{3}{12} = \frac{1}{4}$ . So, they spend the same time outside.

# Topic 1: Numbers, operations and relationships

## Worksheet 30: Ordering and comparing fractions (3)

### Activity 1

1.  $2\frac{2}{16} = 2\frac{1}{8}$

2.  $3\frac{2}{7}$

3.  $4\frac{4}{5}$

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

### Activity 2

1.  $<$

2.  $>$

3.  $=$

4.  $>$

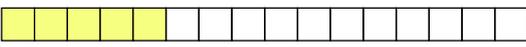
5.  $>$

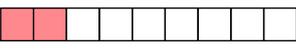
6.  $>$

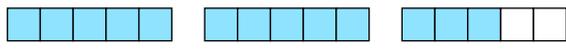
### Activity 3

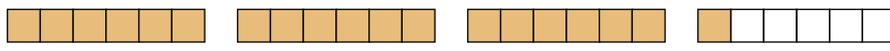
$\frac{3}{5}$ ;  $\frac{4}{5}$ ;  $\frac{1}{5}$ ;  $1\frac{4}{5}$ ;  $2\frac{2}{5}$ ; 3;  $3\frac{1}{5}$ ;  $+3\frac{4}{5}$ ;  $4\frac{1}{5}$ ;  $4\frac{4}{5}$ ;  $5\frac{1}{5}$ ;  $5\frac{4}{5}$ ; 6;  $6\frac{1}{5}$

### Activity 4

1.  $\frac{5}{16} =$  

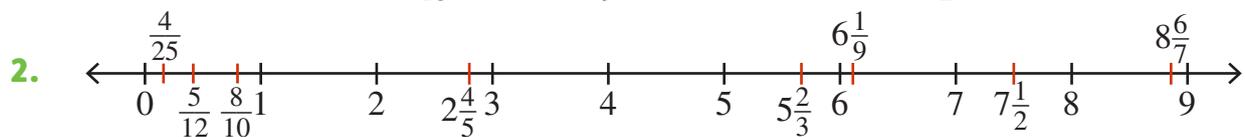
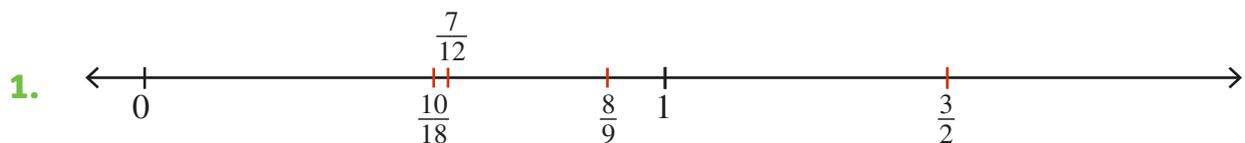
2.  $\frac{8}{18} = \frac{2}{9} =$  

3.  $2\frac{3}{5} =$  

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

## Worksheet 31: Ordering and comparing fractions (4)

### Activity 1



### Activity 2

1.  $\frac{22}{63}$      $\frac{3}{4}$      $\frac{10}{12}$

2.  $\frac{10}{60}$      $\frac{3}{10}$      $\frac{7}{20}$      $\frac{1}{2}$      $\frac{3}{5}$      $\frac{9}{10}$

3.  $\frac{20}{100}$      $2\frac{1}{3}$      $2\frac{2}{5}$      $2\frac{1}{2}$      $2\frac{7}{10}$      $2\frac{3}{4}$      $2\frac{4}{5}$

# Topic 1: Numbers, operations and relationships

## Activity 3

1. 

7	$7\frac{1}{2}$	8	$8\frac{1}{2}$	9	$9\frac{1}{2}$	10	$10\frac{1}{2}$
---	----------------	---	----------------	---	----------------	----	-----------------
2. 

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

## Extension activity

$$\frac{2}{3} \quad \frac{3}{6} \quad \frac{4}{9} \quad \frac{5}{12} \quad \frac{6}{15} \quad \frac{7}{18}$$

## Worksheet 32: Equivalent fractions

### Activity 1

1. a)  $\frac{4}{6}$     $\frac{12}{18}$     $\frac{20}{30}$                       b)  $\frac{21}{24}$     $\frac{28}{32}$     $\frac{35}{40}$   
c)  $\frac{9}{15}$     $\frac{18}{30}$     $\frac{21}{35}$                       d)  $\frac{4}{14}$     $\frac{6}{21}$     $\frac{10}{35}$
2. a) 2                                      b) 4                                      c) 2                                      d) 9  
e) 100                                      f) 10                                      g) 30                                      h) 40
3. a) >                                      b) >                                      c) >  
d) >                                      e) =                                      f) >

### Activity 2

1.  $\frac{6}{12}$ ,  $\frac{10}{20}$ ,  $\frac{5}{10}$                                       2.  $\frac{6}{9}$ ,  $\frac{3}{4}$ ,  $\frac{3}{5}$ ,  $\frac{5}{4}$
3. No star is less than  $\frac{1}{2}$

### Activity 3

1.  $\frac{7}{8} > \frac{5}{6}$   
So, a person would probably prefer  $\frac{7}{8}$  of a slab of chocolate, instead of  $\frac{5}{6}$
2.  $\frac{12}{13} > \frac{13}{15}$   
So, Ben ate the most pizza.
3.  $\frac{7}{9} = \frac{14}{18}$   
Ms Jackson is correct.

## Worksheet 33: Fraction of a quantity

### Activity 1

- |       |    |    |                 |    |    |    |    |
|-------|----|----|-----------------|----|----|----|----|
| 1. a) | 3  | b) | 24              | c) | 24 | d) | 54 |
| e)    | 24 | f) | 30              | g) | 8  | h) | 54 |
| 2. a) | 10 | b) | 60              |    |    |    |    |
|       | 15 |    | 12              |    |    |    |    |
|       | 20 |    | $13\frac{1}{2}$ |    |    |    |    |
|       | 25 |    | 15              |    |    |    |    |

### Activity 2

- $\frac{4}{6}$  of the bananas are good. So, 20 bananas are good.
- $\frac{6}{10} = \text{R}48$ .  
 $\frac{4}{10} = \text{R}32$   
Thandeka had R80 pocket money.
- $\frac{1}{2}$  of 256 = 128 pages.  
Jennifer read the most pages.
- $\frac{2}{3}$  of 36 = 24 and  $\frac{7}{9}$  of 36 = 28  
The jar containing  $\frac{7}{9}$  of 36 biscuits has more biscuits.
- a) Jason eats 6 biscuits and Alison eats 9 biscuits.  
b) 9 biscuits are left in the jar.

## Worksheet 34: Adding and subtracting fractions (1)

### Activity 1

- |                    |                    |                   |
|--------------------|--------------------|-------------------|
| 1. $\frac{5}{12}$  | 2. $8\frac{1}{8}$  | 3. $\frac{3}{8}$  |
| 4. $6\frac{1}{4}$  | 5. $1\frac{3}{6}$  | 6. $1\frac{3}{8}$ |
| 7. $1\frac{2}{12}$ | 8. $13\frac{4}{6}$ | 9. $3\frac{1}{3}$ |

### Activity 2

- |                          |                           |
|--------------------------|---------------------------|
| 1. $6\frac{2}{4}$ litres | 2. 8 litres               |
| 3. 7 litres              | 4. $11\frac{1}{4}$ litres |

## Extension activity

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

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

## Worksheet 35: Adding and subtracting fractions (2)

### Activity 1

$$1. \quad 3\frac{1}{3} \rightarrow \frac{-2}{3} \rightarrow 2\frac{2}{3} \rightarrow \frac{+3}{5} \rightarrow 3\frac{4}{15} \rightarrow +5\frac{1}{5} \rightarrow 8\frac{7}{15} \rightarrow +\frac{4}{5} \rightarrow 9\frac{4}{15} \rightarrow +\frac{3}{8} \rightarrow 9\frac{77}{120} \rightarrow \frac{-2}{8} \rightarrow 9\frac{47}{120} \rightarrow +\frac{8}{5} \rightarrow 10\frac{122}{120} \rightarrow 7 \rightarrow \frac{-3}{4} \rightarrow 18\frac{32}{120} \rightarrow +1 \rightarrow 19\frac{32}{120} \rightarrow \frac{-1}{4} \rightarrow 19\frac{2}{120}$$

### Activity 2

- |                   |                   |                   |                    |
|-------------------|-------------------|-------------------|--------------------|
| 1. $\frac{5}{6}$  | 2. $1\frac{4}{9}$ | 3. $1\frac{2}{5}$ | 4. $\frac{2}{6}$   |
| 5. $3\frac{5}{6}$ | 6. $\frac{2}{4}$  | 7. $\frac{5}{8}$  | 8. $1\frac{3}{12}$ |

### Activity 3

- Each person will get  $\frac{9}{5}$  or  $1\frac{4}{5}$  pizza.
- $P = 13$  cm
- Vusi spent  $\frac{5}{8}$  of an hour on both activities.

## Worksheet 36: Adding and subtracting fractions (3)

### Activity 1

- |                    |                    |                   |
|--------------------|--------------------|-------------------|
| 1. $4\frac{5}{6}$  | 2. $5\frac{1}{2}$  | 3. $\frac{5}{8}$  |
| 4. $11\frac{1}{4}$ | 5. $11\frac{3}{8}$ | 6. $2\frac{1}{5}$ |

# Topic 1: Numbers, operations and relationships

## Activity 2

1. a)

Route				
	Flight in hours	Time	Bus trip in hours	Time
Johannesburg to Cape Town	$2\frac{1}{5}$	2h 12 min	$\frac{3}{10}$	18 min
Johannesburg to Durban	$\frac{7}{8}$	$52\frac{1}{2}$ min	$\frac{3}{4}$	45 min
Durban to Cape Town	$2\frac{1}{2}$	2 h 30 min	$\frac{1}{4}$	15 min
Bloemfontein to Cape Town	$1\frac{3}{4}$	1 h 45 min	$\frac{3}{5}$	36 min

b) Difference between the shortest and longest journey is  $1\text{ h }7\frac{1}{2}\text{ min}$ .

2. Each person gets  $\frac{1}{10}$  of the slab of chocolate.

3. a)  $2\frac{3}{4}$  teaspoons of ingredients

b)  $1\frac{3}{8}$  teaspoons of ingredients

## Worksheet 37: Ordering and comparing decimals

### Activity 1

1.  $\frac{1}{2}$ ; 0,5

2.  $\frac{27}{100}$ ; 0,27

3.  $\frac{47}{100}$ ; 0,47

4.  $\frac{7}{20}$ ; 0,35

### Activity 2

1. a) 0,5

b) 0,25

c) 0,30

d) 0,047

e) 0,08

f) 0,225

2. a)  $\frac{2}{10} = \frac{1}{5}$

b)  $\frac{625}{1\,000} = \frac{5}{8}$

c)  $\frac{24}{100} = \frac{6}{25}$

d)  $\frac{7}{100}$

e)  $\frac{125}{1\,000} = \frac{1}{8}$

f)  $\frac{9}{1\,000}$

### Activity 3

1. 2,5   3   3,5   4,0   4,5   5   5,5   6,0   6,5

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

3. 1,6   2,4   3,2   4,0   4,8   5,6   6,4   7,2









## Worksheet 43: Revision

### Activity 1

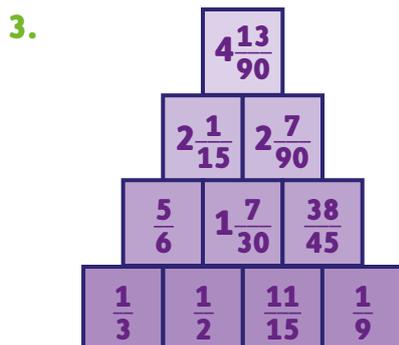
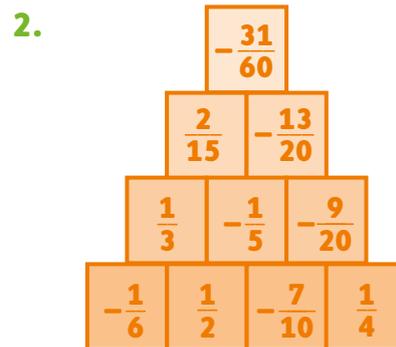
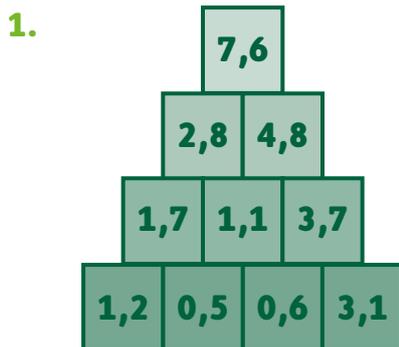
$$\frac{1}{20} \quad \frac{5}{6} \quad 2\frac{1}{4} \quad 2,3 \quad 3\frac{1}{10} \quad 4,125$$

### Activity 2

1.	Fraction	Decimal	Percentage
	$\frac{12}{25}$	0,48	48%
	$2\frac{9}{10}$	2,9	290%
	$\frac{625}{1000}$	0,625	62,5%
	$\frac{7}{8}$	0,875	87,5%
	$\frac{45}{100} = \frac{9}{20}$	0,45	45%

2. a) 35                      b) 42                      c) 48                      d) 81
3. a)  $\frac{4}{8} = \frac{1}{2}$                       b)  $\frac{1}{7}$                       c)  $\frac{11}{9} = 1\frac{2}{9}$                       d)  $\frac{11}{16}$
- e)  $\frac{23}{21} = 1\frac{2}{21}$                       f)  $10\frac{3}{4}$                       g) 0,1                      h) 3,19
- i) 3,131                      j) 2,27                      k)  $3\frac{2}{6} = 3\frac{1}{3}$                       l) 11,6

### Extension activity



## Worksheet 44: Number sentences (1)

### Activity 1

Column A	Column B
$\square \times 6 - 37 = 101$	12
$3 \times \square - 26 = 10$	7
$17 = 4 \times \square - 11$	6
$8 \times \square + 10 = 82$	7
$\square \times 5 - 14 = 56$	23
$3 \times \square + 12 = 30$	9
$12 \times \square + 10 = 94$	7
$4 \times \square - 15 = 9$	9
$(\square \times 5) + 2 = 37$	6
$\square \times 2 = 3 \times (3 + 3)$	28
$26 - (\square \div 2) = 18$	14

### Activity 2

- 34
- $10 \times 3 + 4 = 34$
- 31
- 79
- 12
- Learners' own work

## Worksheet 45: Number sentences (2)

### Activity 1

- 23
  - 9
  - 12
  - 6
  - 4
  - 3
- $(350 + 650) \times 2 \div 500 = 4$
  - $R4,98 \times 1 + R3,39 \times 4 = R18,54$
  - $(6 \times 8) \div 4 - 7 = 5$
  - $(25 + 55) \div 5 = 16$
  - $(24 - 8) \div 4 + 5 = 9$

**3. a)**

<b>Input</b>	1	2	3	10	15	22	25
<b>Output</b>	8	13	18	53	78	113	128

**b)**

<b>Input</b>	1	2	3	5	10	18	23
<b>Output</b>	3	12	21	39	84	156	201

**c)**

<b>Input</b>	5	8	12	15	20	25	30
<b>Output</b>	33	51	75	93	123	153	183

## Worksheet 46: Tables and flow diagrams

### Activity 1

- 1. a)** 16; 18; 20  
**b)** 83; 101; 119  
**c)** 500; 2 500; 12 500  
**d)** 27; 35; 43  
**e)** 250; 125; 62,5

**2. a)**

<b>Input</b>	1	2	3	4	5	10
<b>Output</b>	8	16	24	32	40	80

Rule:  $\times 8$

**b)**

<b>Input</b>	1	2	3	4	5	10
<b>Output</b>	4	11	18	25	32	67

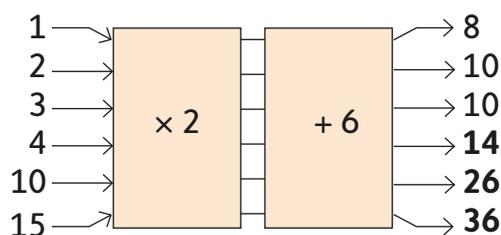
Rule:  $\times 7 - 3$

**c)**

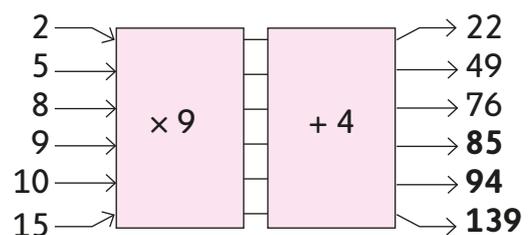
<b>Input</b>	1	2	3	4	5	10
<b>Output</b>	5	7	9	11	13	23

Rule:  $\times 2 + 3$

- 3. a)** Rule:  $\times 2 + 6$



- b)** Rule:  $\times 9 + 4$

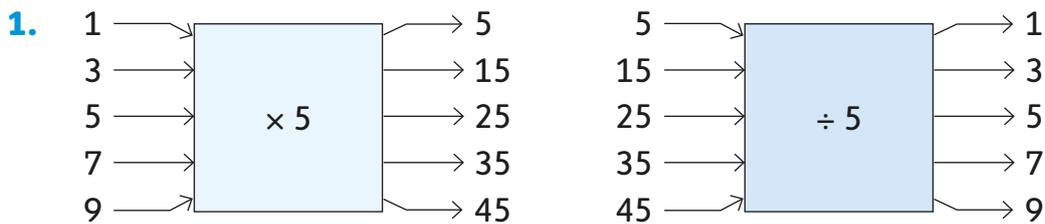


## Worksheet 47: Number sentences, tables and flow diagrams

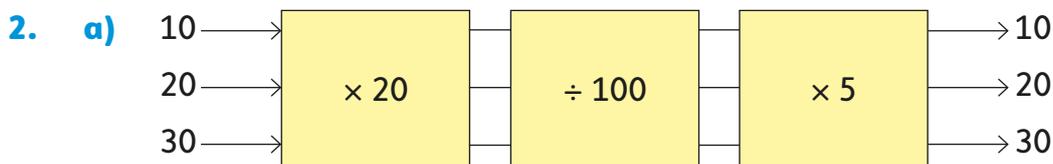
### Activity 1

1. a) 7; 5; 3  
b) Rule: Subtract 2 from the previous number in the pattern (sequence).
2. a) 31; 37; 43  
b) Rule: Add 6 to the previous number in the pattern.
3. a) 32; 37; 42  
b) Rule: Add 5 to the previous number in the pattern
4. a) 17; 23; 30  
b) Rule: Add the difference between the previous two numbers + 1 to the previous number in the pattern.

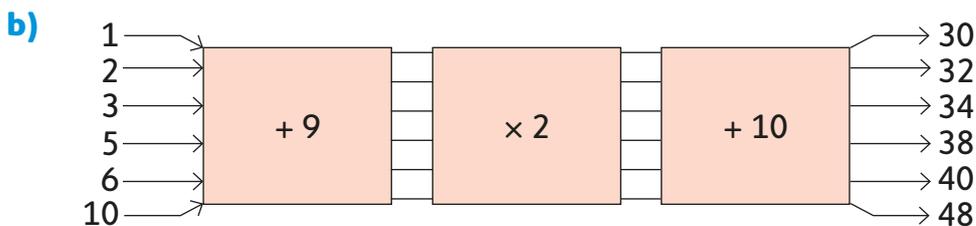
### Activity 2



- a) The output values of the first diagram = the input values of the second diagram.
- b)  $\times 5$  is the reciprocal of  $\div 5$ .



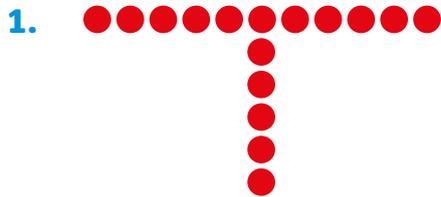
Rule: The input number is the same as the output number



Rule: The output numbers are all even numbers.

## Worksheet 48: Patterns and rules (1)

### Activity 1



2. He adds 3 marbles every time.

Pattern	1	2	3	4	5	6	10	20
Marbles	4	7	10	13	16	19	31	61

4. a)  $1 \times 3 + 1 = 4$

b)  $2 \times 3 + 1 = 7$

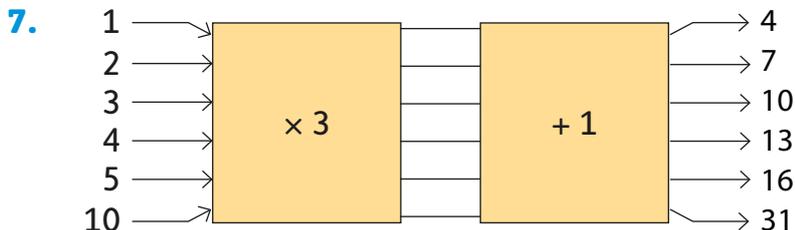
c)  $3 \times 3 + 1 = 10$

d)  $4 \times 3 + 1 = 13$

e)  $5 \times 3 + 1 = 16$

5. Multiply the number of the pattern's position in the row by 3 and add 1.

6. Number of marbles in the 10<sup>th</sup> position in the row (pattern 10):  $10 \times 3 + 1 = 31$ .



## Worksheet 49: Patterns and rules (2)

### Activity 1

1. Mrs Maart adds each time 5 tiles.

2. Rule: Multiply the position of the pattern in the row by 5 and add 2.

Number of white tiles = number of black tiles  $\times 4 + 2$

3. a) 6

b) 10

c) 14

d) 18

e)  $5 \times 4 + 2 = 22$

f)  $6 \times 4 + 2 = 26$



### Worksheet 51: Fibonacci's sequence

#### Activity 1

**1–6.** Learners' own drawings:

$$2 = 1 + 1$$

$$3 = 2 + 1$$

$$5 = 3 + 2$$

$$8 = 5 + 3$$

$$13 = 8 + 5$$

$$21 = 13 + 8$$

$$34 = 21 + 13$$

$$55 = 34 + 21$$

$$89 = 55 + 34$$

- 7.**
- a)** 2; 9; 11; 18; 29; 47
  - b)** 20; 40; 60; 100; 160; 260
  - c)** 7; 10; 17; 27; 44; 71
  - d)** 2; 2; 4; 6; 10; 16

# Topic 3: Space and shape (geometry)

## Worksheet 52: Properties of shapes

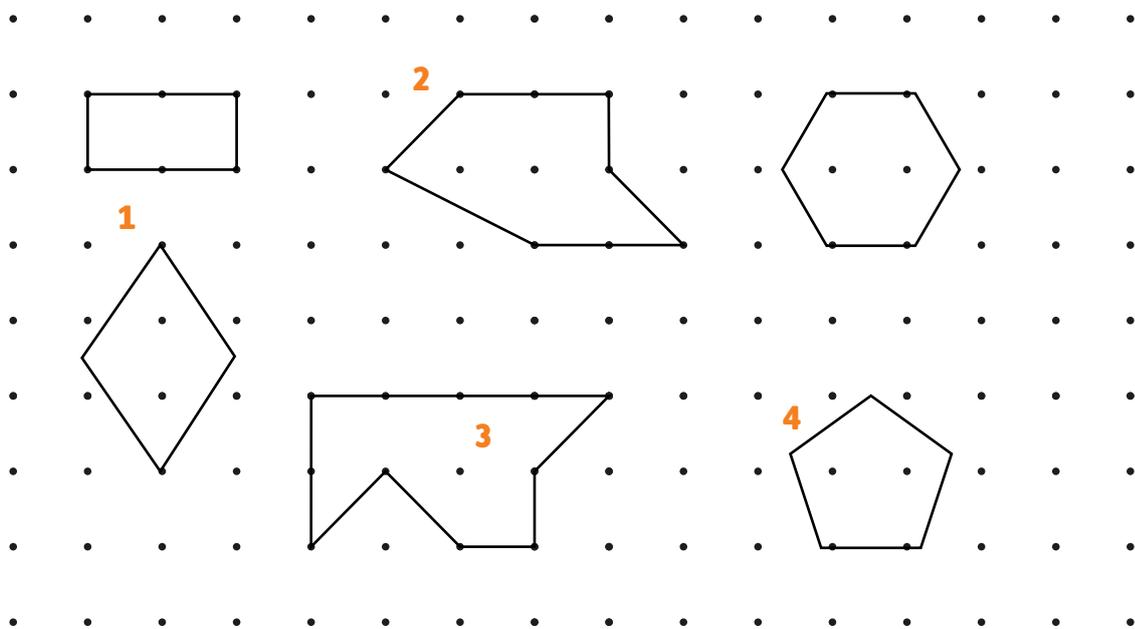
### Activity 1

- |                              |                     |
|------------------------------|---------------------|
| 1. H, J, N                   | 2. B, C, E, F, I, R |
| 3. A, D, G, K, L, M, O, P, Q | 4. M                |
| 5. G, M, Q                   | 6. L                |
| 7. Q                         | 8. M                |
| 9. P                         |                     |

### Activity 2

Shape	Number of sides	Number of angles	Name of shape
A.	5	5	Regular pentagon
B.	8	8	Irregular octagon
C.	4	4	Parallelogram
D.	6	6	Irregular hexagon
E.	3	3	Irregular triangle
F.	7	7	Irregular heptagon

### Activity 3



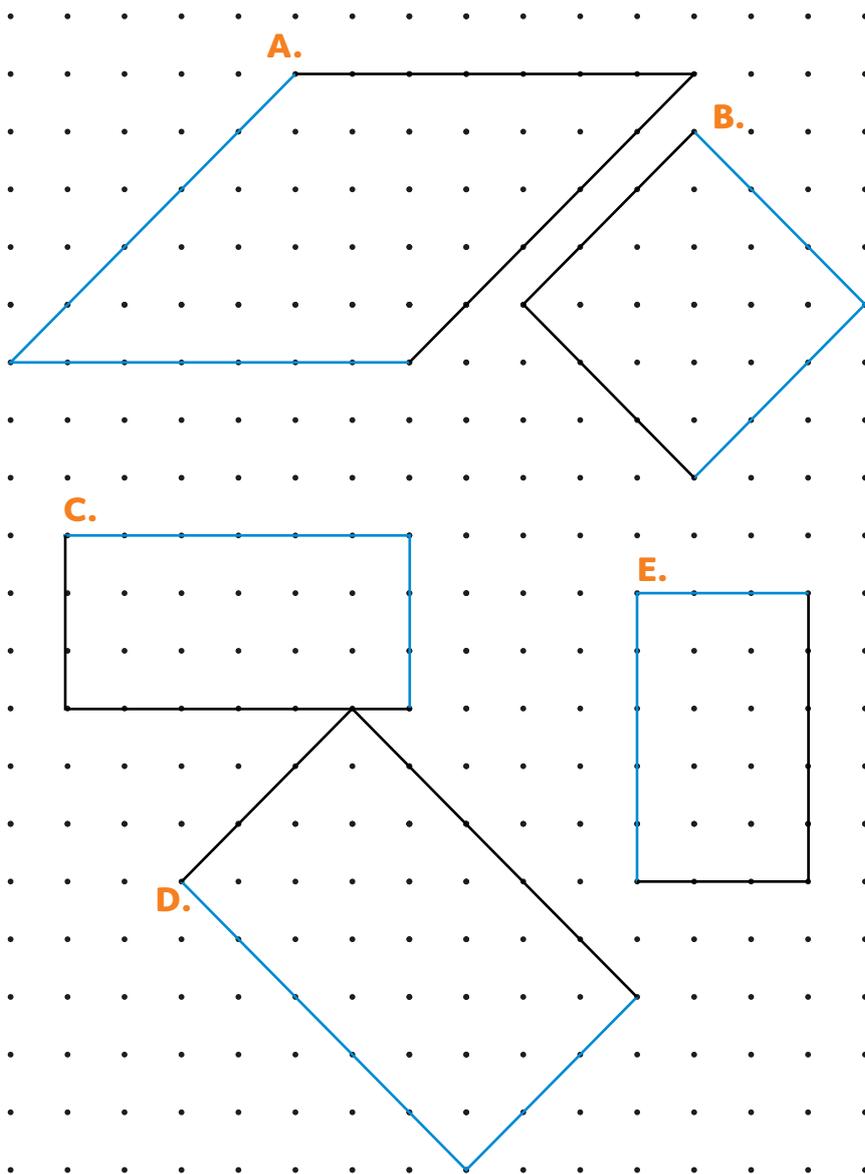
## Worksheet 53: Parallelograms

### Activity 1

	Rectangles	Parallelograms
1.	E F H	A C D G

- They both have 4 sides, and 4 angles, with opposite sides parallel.
- Rectangles have four  $90^\circ$  angles, while parallelograms have consecutive angles that are supplementary.

### Activity 2



## Topic 3: Space and shape (geometry)

### Worksheet 54: Composite shapes

#### Activity 1

Learners' own work

#### Activity 2

Learners' own work

#### Activity 3

Learners' own work

#### Extension Activity

Learners' own work

### Worksheet 55: Angles

#### Activity 1

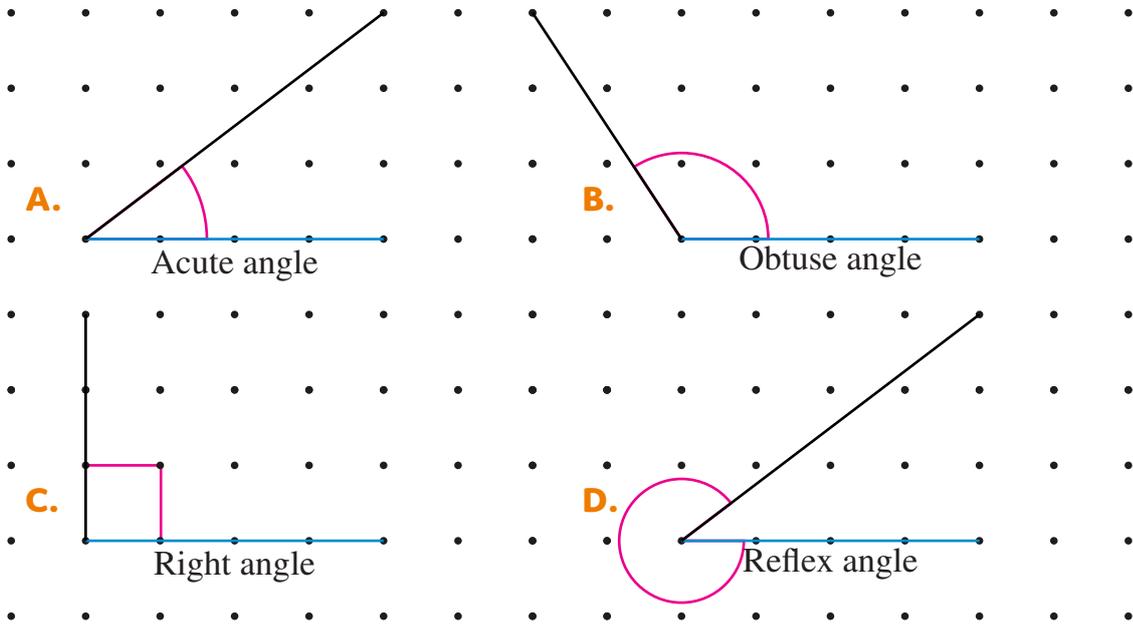
- |                                     |                |
|-------------------------------------|----------------|
| 1. $45^\circ$                       | 2. $90^\circ$  |
| 3. $180^\circ$                      | 4. $315^\circ$ |
| 5. Thandi = H; Robert = A; Kyle = C | 6. $270^\circ$ |

#### Activity 2

- |                        |                    |
|------------------------|--------------------|
| 1. acute angle         | 2. obtuse angle    |
| 3. straight-line angle | 4. acute angle     |
| 5. acute angle         | 6. full revolution |
| 7. reflex angle        | 8. acute angle     |
| 9. obtuse angle        |                    |

# Topic 3: Space and shape (geometry)

## Activity 3

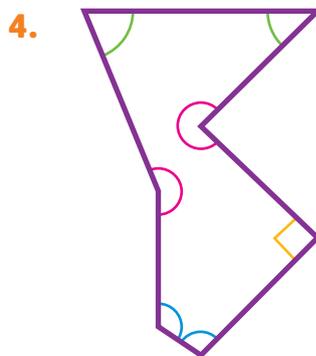
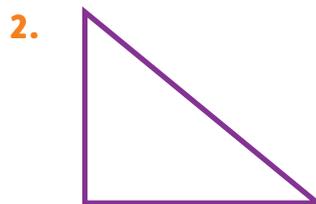
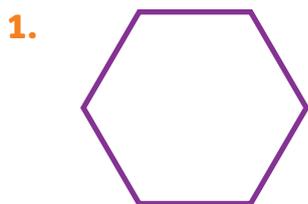


## Worksheet 56: Angles in 2-D shapes

### Activity 1

1.  $a = \text{acute}$ ;  $b = \text{acute}$ ;  $c = \text{obtuse}$ ;  $d = \text{right angle}$ ;  $e = \text{obtuse angle}$ ;  $f = \text{reflex angle}$ ;  $g = \text{obtuse angle}$ ;  $h = \text{acute angle}$ ;  $i = \text{obtuse angle}$ ;  $j = \text{reflex angle}$

### Activity 2



## Topic 3: Space and shape (geometry)

### Extension Activity

1.  $a$  = acute angle;  $b$  = obtuse angle;  $c$  = right angle;  $d$  = acute angle;  
 $e$  = straight line angle
2.  $27^\circ$

## Worksheet 57: 3-D objects in everyday life

### Activity 1

Prisms	Pyramids	Spheres	Cones
C	P	A	F
D		B	H
E		J	O
G			
I			
K			
L			
M			
N			

Objects with only curved faces	Objects with curved and flat faces	Objects with only flat faces
A	E	C
B	G	D
J	H	F
	N	I
	O	K
		L
		M
		P

## Worksheet 58: Sorting 3-D objects

### Activity 1

1. a) A, B, C and G  
b) H and I  
c) D and F  
d) E

## Topic 3: Space and shape (geometry)

2. a) Cylinders  
 b) Curved and flat surfaces  
 c) 2 faces  
 d) Circles, and a rectangle
3. a) 7 faces  
 b) Triangles, and a hexagon  
 c) Hexagonal pyramid

### Worksheet 59: Pyramids

#### Activity 1

1. A, B, D, F, G, and H
2. a) A = Hexagon; B = Triangle; C = Not a pyramid; D = Square; E = not a pyramid; F = Pentagon; G = Octagon; H = Heptagon  
 b) A = Hexagonal pyramid; B = Triangular pyramid; C = Not a pyramid; D = Square-based pyramid; E = Not a pyramid; F = Pentagonal pyramid; G = Octagonal pyramid; H = Heptagonal pyramid
4. All the sides are the same shape.

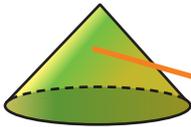
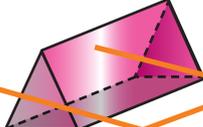
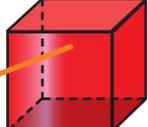
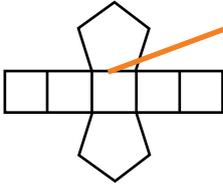
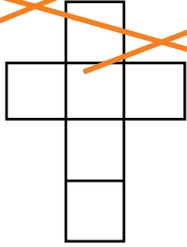
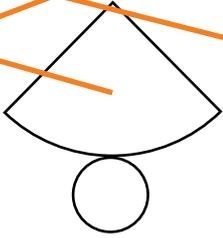
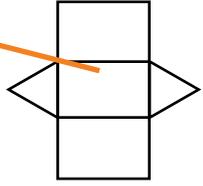
### Worksheet 60: Making 3-D models using nets

#### Activity 1

Learners' own work

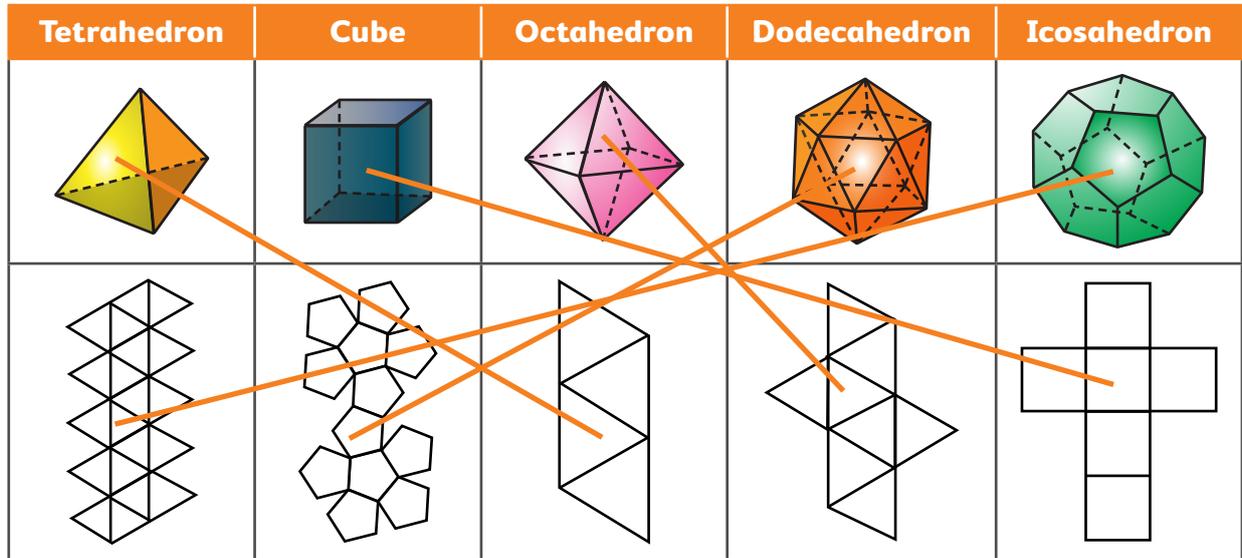
### Worksheet 61: Nets of 3-D objects

#### Activity 1

Cone	Triangular prism	Pentagonal prism	Hexagonal prism	Cube
				
				

## Topic 3: Space and shape (geometry)

### Extension Activity



## Worksheet 62: Faces, edges and vertices of 3-D objects

### Activity 1

	Name of object	Shapes of faces	Number of edges	Number of vertices	Number of faces
1	Cube	Square	12	8	6
2	Square prism	Square and rectangle	12	8	6
3	Square pyramid	Square and triangle	8	5	5
4	Cylinder	Circle and rectangle	2	0	3
5	Triangular prism	Triangle and rectangle	9	6	5
6	Sphere	Curved surface	0	0	1
7	Hexagonal prism	Hexagon and rectangle	15	10	7

## Worksheet 63: What shape am I?

### Activity 1

- Cylinder
- Square-based pyramid
- Cube
- Triangular-based pyramid

# Topic 3: Space and shape (geometry)

- 5. Sphere
- 7. Triangular prism
- 9. Hexagonal pyramid

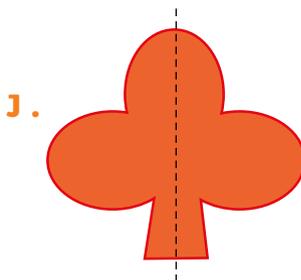
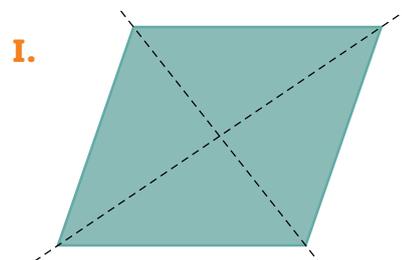
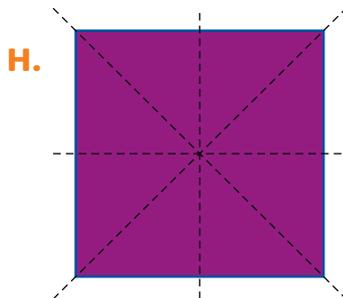
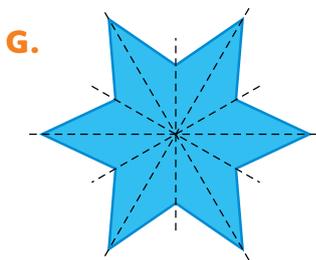
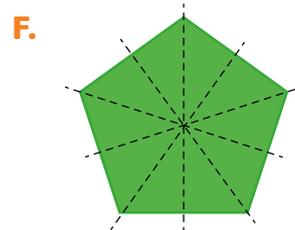
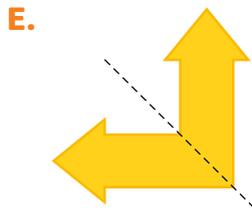
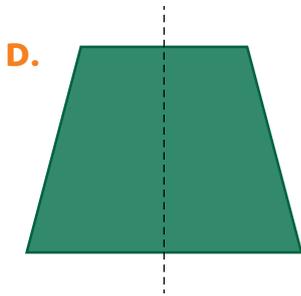
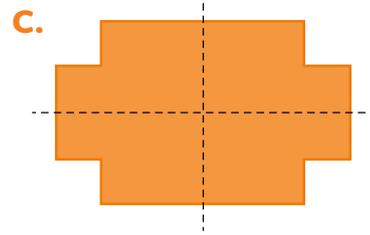
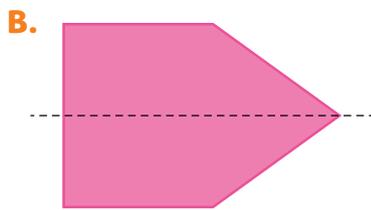
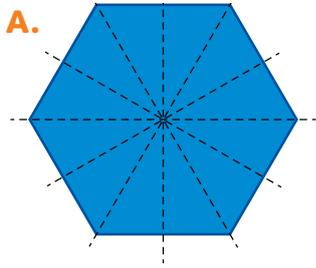
- 6. Cone
- 8. Hexagonal prism

## Extension Activity

Truncated square pyramid

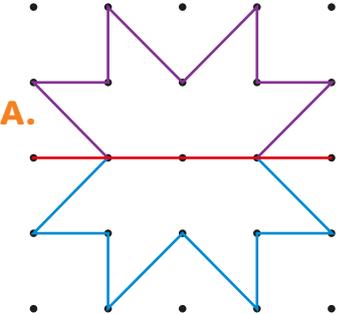
## Worksheet 64: Symmetry (1)

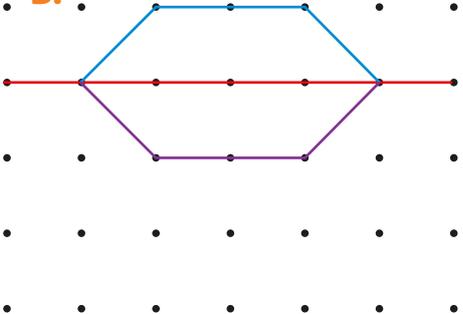
### Activity 1

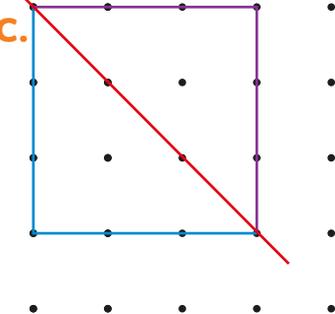


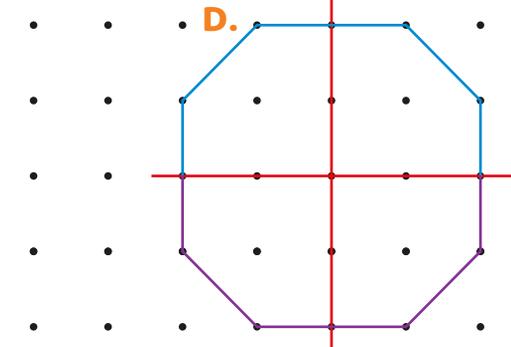
## Worksheet 65: Symmetry (2)

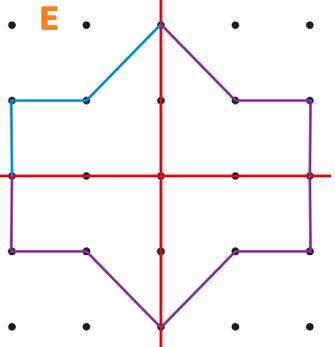
### Activity 1

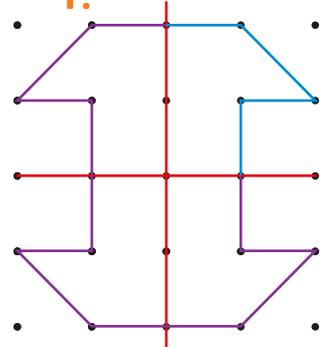
A. 

B. 

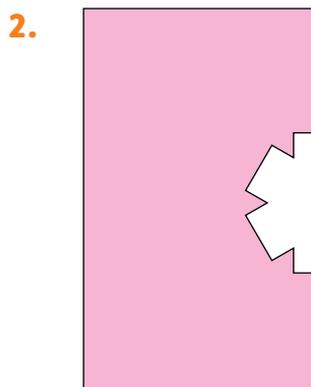
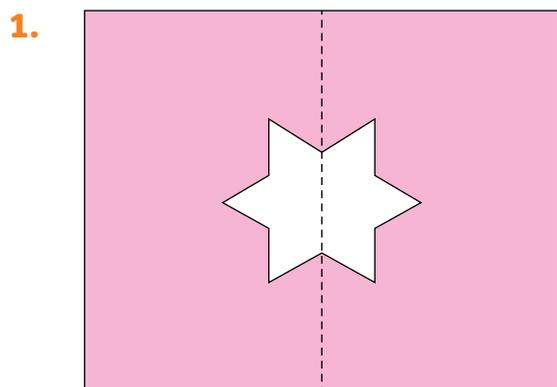
C. 

D. 

E. 

F. 

### Activity 2



### Worksheet 66: Enlarging shapes

#### Activity 1

The grid contains the following shapes:

- Shape A:** A triangle with a horizontal base of 4 units and a height of 3 units.
- Shape B:** A square with side length 3 units.
- Shape C:** An inverted triangle with a horizontal base of 4 units and a height of 3 units.
- Shape D:** A square with side length 5 units.
- Shape E:** A triangle with a horizontal base of 10 units and a height of 4 units.
- Shape F:** A triangle with a horizontal base of 10 units and a height of 6 units.
- Shape G:** A rectangle with a width of 6 units and a height of 4 units.

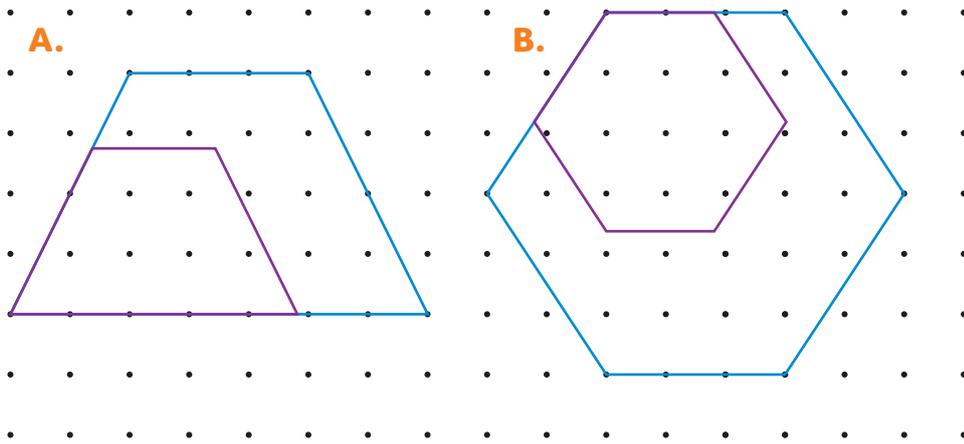
## Topic 3: Space and shape (geometry)

### Activity 2

A is enlarged by 2

B is enlarged by 2

### Activity 3



## Worksheet 67: Tessellations

### Activity 1

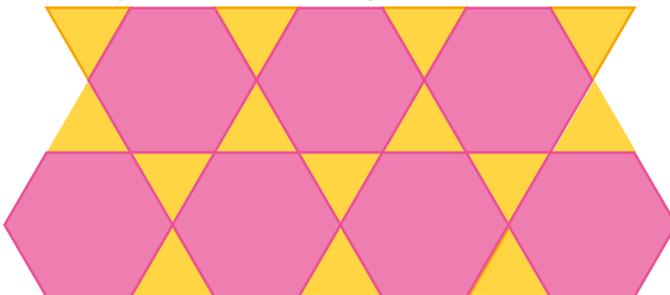
1. a) A diamond, hexagon and square



- b) Yes, there is diagonal, vertical and horizontal symmetry.  
 c) Translation of the diamond and square, and a rotation of the hexagon.

### Activity 2

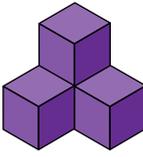
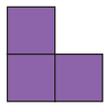
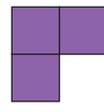
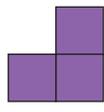
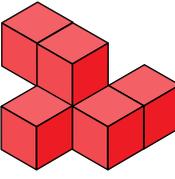
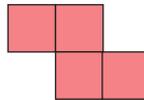
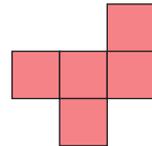
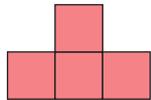
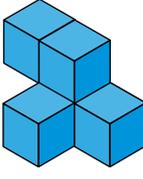
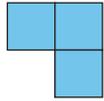
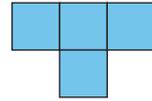
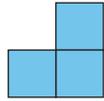
1. A = Pentagon, B = Hexagon, C = Heptagon, D = Triangle  
 2. Shape B and D  
 3. Yes, they can tessellate together  
 4.



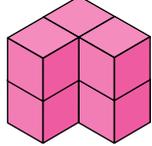
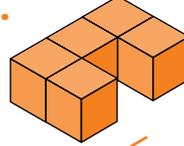
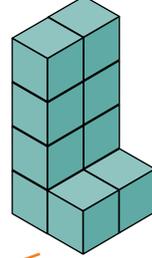
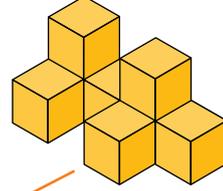
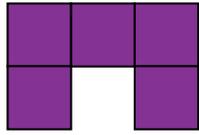
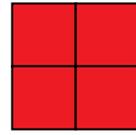
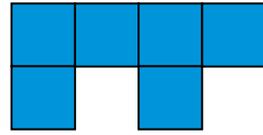
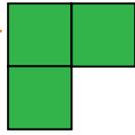
Translation of the hexagon, and reflection and translation of the triangle

## Worksheet 68: Different views (1)

### Activity 1

Object	Front view	Top view	Right-side view
			
			
			

### Activity 2

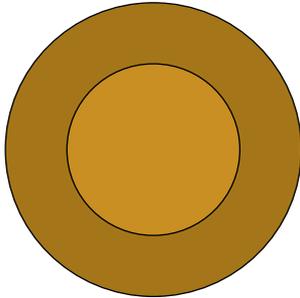
1. 	2. 	3. 	4. 
A. 	B. 	C. 	D. 

## Topic 3: Space and shape (geometry)

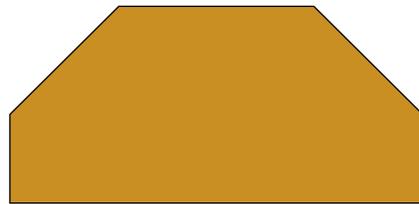
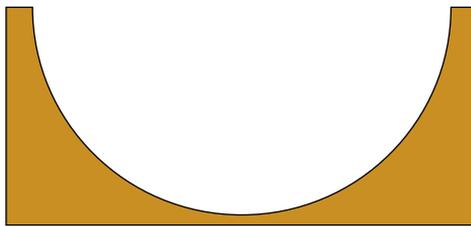
### Worksheet 69: Different views (2)

#### Activity 1

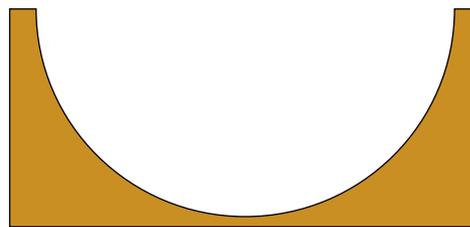
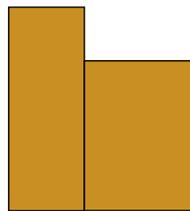
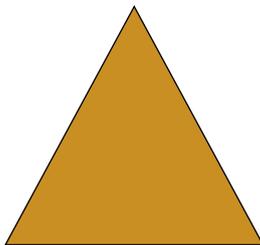
1.



2.



3.



4. a) Handrail                      b) Hip                      c) Mega ramp  
d) Grind Box                      e) Half pipe                      f) Mega ramp

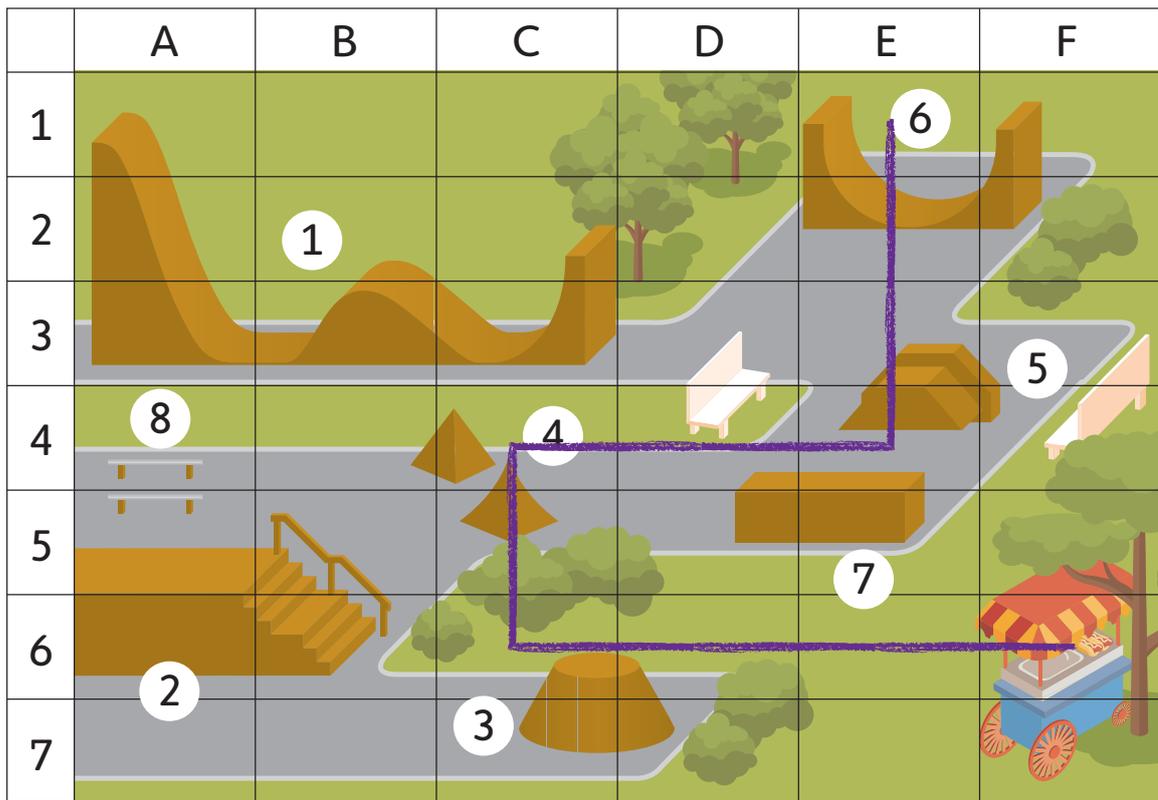
### Worksheet 70: Position and movement

#### Activity 1

1. a) Flat rail                      b) Hotdog stand  
c) Volcano                      d) Grind box  
e) Half pipe
2. A1, A2, A3, B3, C3, C2
3. A4

## Topic 3: Space and shape (geometry)

4.



5. From A6, go straight towards the hotdog stand in F6. Then turn left and travel 5 units towards F1. From F1, turn left again and travel to E1, the location of the Half Pipe.

### Activity 2

1. a) Police station                      b) Clinic                      c) Library
2. D2
3. A3 and B3
4. From A4, travel along Kelp Way until Dolphin Way at C4. Turn left onto Dolphin Way, and travel straight, past the skate park on your right, until you reach the High School at D1.

## Topic 4: Measurement

### Worksheet 71: Estimating and measuring length

#### Activity 1

Learners' own work

#### Activity 2

- a)** mm **b)** cm
- a)** mm **b)** cm
- a)** 2 060 mm  
**b)** 206 cm; 2,06 m; 0,00206 km
- a)** 1 094 mm  
**b)** 109,4 cm; 1,094 m; 0,001094 km
- a)** 188 mm  
**b)** 18,8 cm; 0,188 m; 0,000188 km

### Worksheet 72: Conversions between mm, cm, m and km

#### Activity 1

- 1,9 mm; 3,4 mm; 7,2 mm; 9,0 mm
- 73,5 m; 84,9 m; 92,3 m; 102,5 m
- 153 cm; 2,1 m; 3,05 m; 3 010 mm; 326 cm
- 10,1 km; 1 015 200 cm; 10 253 m; 11,2 km

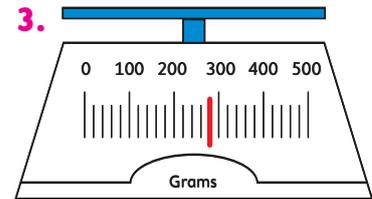
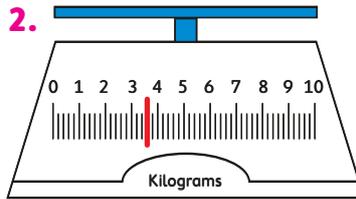
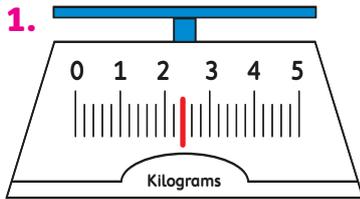
#### Activity 2

- a)** 100 mm **b)** 240 mm  
**c)** 36 mm **d)** 98 mm
- a)** 1,05 m; 1 050 mm **b)** 2,13 m; 2 130 mm  
**c)** 1,93 m; 1 930 mm **d)** 3,13 m; 3 130 mm
- a)** 15 m **b)** 5,86 m  
**c)** 8,5 m **d)** 26,3 m
- a)** 23,52 km **b)** 1,005 km  
**c)** 51,53 km **d)** 8,921 km
- a)** 1 060 m **b)** 26 810 m  
**c)** 5 160 m **d)** 12 890 m



## Topic 4: Measurement

### Activity 3



## Worksheet 75: Mass (2)

### Activity 1

1. 69 kg
2. 83 kg
3. Kevin is heavier by 14 kg
4. 152 kg

### Activity 2

1. 3 452 g; 3,74 kg; 4,39 kg; 4 780 g; 4 980 g
2. 6,32 kg; 7,69 kg; 8 526 g; 8,98 kg; 9 785 g
3. 2 050 g; 2,35 kg; 2,4 kg; 2 450 g; 2,5 kg

### Activity 3

Kilograms	Grams
$8\frac{1}{2}$ kg	8 500 g
9,425 kg	9 425 g
2,3 kg	2 300 g
$3\frac{2}{5}$	3 400 g
2,325 kg	2 325 g
5,1251 kg	5 125,10 g
3 kg 9g	3 009 g
210 kg	210 000 g
6,985	6 985 g
0,75 kg	750 g

## Worksheet 76: Mass (3)

### Activity 1

- |                  |                  |                   |                  |
|------------------|------------------|-------------------|------------------|
| <b>1.</b> 3,5 kg | <b>2.</b> 750 g  | <b>3.</b> 472 g   | <b>4.</b> 4 kg   |
| <b>5.</b> 12 kg  | <b>6.</b> 530 kg | <b>7.</b> 1 900 g | <b>8.</b> 540 kg |

### Activity 2

- |                      |                     |                     |
|----------------------|---------------------|---------------------|
| <b>1.</b> 1 kg 696 g | <b>2.</b> 193 g     | <b>3.</b> 25,956 kg |
| <b>4.</b> 1 kg 750 g | <b>5.</b> 72,265 kg | <b>6.</b> 60,466 kg |

## Worksheet 77: Capacity (1)

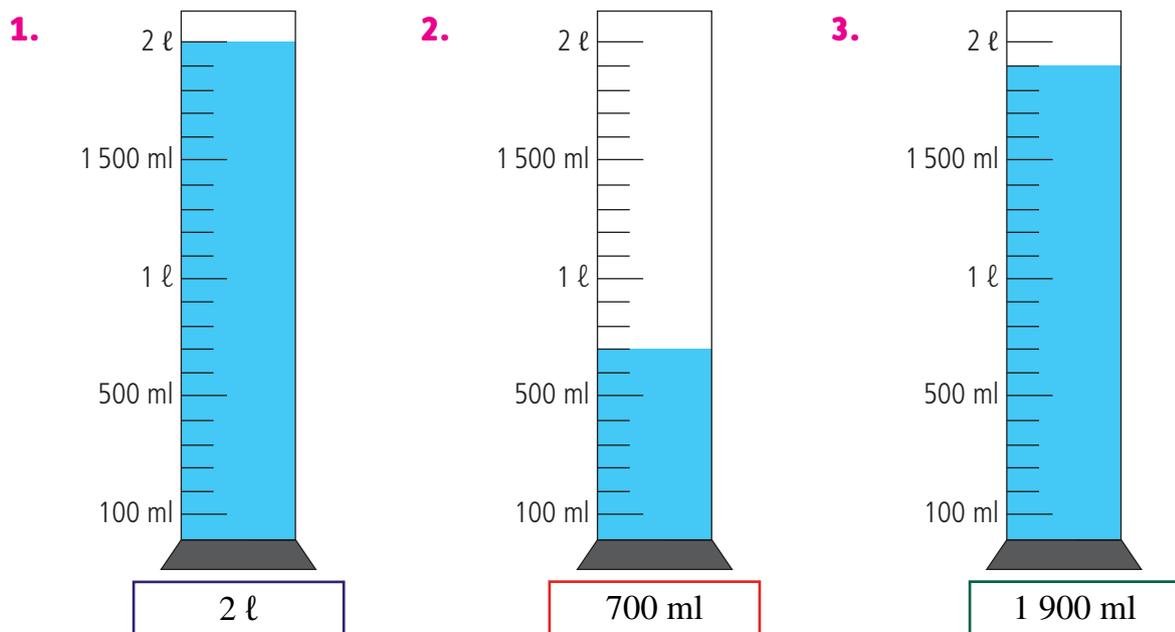
### Activity 1

- |             |             |             |
|-------------|-------------|-------------|
| <b>1.</b> B | <b>2.</b> C | <b>3.</b> B |
|-------------|-------------|-------------|

### Activity 2

- |                    |                  |
|--------------------|------------------|
| <b>1.</b> 750 ml   | <b>2.</b> 15 ml  |
| <b>3.</b> 1 500 ml | <b>4.</b> 700 ml |

### Activity 3



## Topic 4: Measurement

### Worksheet 78: Capacity (2)

#### Activity 1

1. 375 ml
2. 7 500 ml
3. 5 250 ml
4. 2,225 litres
5. 6 750 litres
6. 750 litres
7. 0,995 litres
8. 0,1 kl

#### Activity 2

1.
  - a) 1 500 ml; 2,980 ml; 3,2 litres; 5 200 litres; 9,8 kl
  - b) 2 litres; 2 100 ml; 2,2 litres; 2,2 kl; 2 100 kl
  - c) 90 000 ml; 91 litres; 91,1 litres; 9,5 kl; 90 000 litres
2.
  - a) 20 containers
  - b) 6 containers
  - c) 30 containers
  - d) 3 containers

#### Activity 3

1. Have to multiply all ingredients by 7.

Ingredients	
2 bananas	<u>14</u>
12 frozen strawberries	<u>84</u>
250 ml yoghurt	<u>1 ℓ 750 ml</u>
125 ml milk	<u>875 ml</u>
30 ml honey	<u>201 ml</u>
500 ml apple juice	<u>3 ℓ 500 ml</u>
Ice	

2. 9 cups + some extra

### Worksheet 79: Reading time

#### Activity 1

1. 8 hours, 52 minutes and 49 seconds
2. 12 hours, 35 minutes, 47 seconds
3. 2 hours, 50 minutes, 8 seconds
4. 3 hours, 55 minutes, 10 seconds
5. 1 hour, 51 minutes, 34 seconds
6. 3 hours, 46 minutes, 53 seconds
7. 7 hours, 1 minute, 14 seconds
8. 11 hours, 46 minutes, 45 seconds

9. 10 hours, 10 minutes, 59 seconds

10. 9 hours, 6 minutes, 8 seconds

11. 10 hours, 9 minutes, 9 seconds

12. 8 hours, 3 minutes, 48 seconds

## Activity 2

1.



2.



3.



## Activity 3

	A. Eleven minutes to 8
	B. Half past three
	C. Two minutes past eight
	D. Eighteen minutes to nine
	E. Twenty-three minutes to one
	F. Twenty-five to eleven

## Topic 4: Measurement

### Worksheet 80: 12-hour and 24-hour time

#### Activity 1

12-hour time	24-hour time
3:25 a.m.	03:25
7:20 p.m.	19:20
8:05 p.m.	20:05
1:16 a.m.	01:16
10:42 p.m.	22:42
12:51 a.m.	00:51
02:42 p.m.	14:42

#### Activity 2

1. A = 12:08; B = 15:10; C = 13:29
2. A. Eight minutes past 12 in the afternoon  
B. Ten minutes past three in the afternoon  
C. Twenty-nine minutes past one

#### Extension Activity

3:30 a.m.

### Worksheet 81: Elapsed time

#### Activity 1

Start time	End time	Elapsed time
20:05	22:23	2 hours 18 minutes
22:05	02:28	4 hours 23 minutes
08:15	10:04	1 hour 49 minutes
19:57	22:32	2 hours 35 minutes
23:42	04:29	4 hours 47 minutes

#### Activity 2

1. a) Bottas: 1:35:51; Verstappen: 1:35:57  
b) 16:45:30



## Topic 4: Measurement

### Activity 2

1. Summer
2. Sutherland
3. Richards Bay
4. Springbok and Cape Town
5. 12°C
6. 15°C

### Worksheet 85: Perimeter

#### Activity 1

1. 140 mm
2. 12,6 cm
3. 135 cm
4. 10 cm
5. 86 mm
6. 16,6 cm

#### Extension Activity

1. 50 m
2. 40 m
3. 300 m

### Worksheet 86: Volume

#### Activity 1

1.  $V = 125 \text{ units}^3$ ;  $SA = 150 \text{ units}^2$
2.  $V = 45 \text{ units}^3$ ;  $SA = 78 \text{ units}^2$
3.  $V = 100 \text{ units}^3$ ;  $SA = 130 \text{ units}^2$
4.  $V = 36 \text{ units}^3$ ;  $SA = 60 \text{ units}^2$
5.  $V = 96 \text{ units}^3$ ;  $SA = 136 \text{ units}^2$
6.  $V = 21 \text{ units}^3$ ;  $SA = 44 \text{ units}^2$

#### Extension Activity

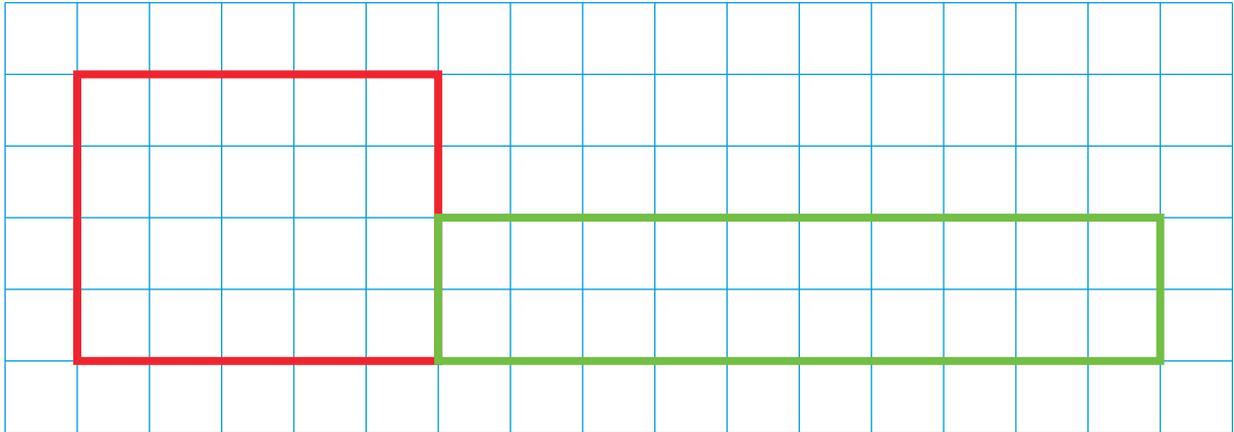
1. 18 cubes
2. 13 layers
3.  $234 \text{ cm}^3$
4.  $270 \text{ cm}^2$

### Worksheet 87: Area

#### Activity 1

1.  $9 \text{ cm}^2$
2.  $10 \text{ cm}^2$
3.  $8 \text{ cm}^2$
4.  $15 \text{ cm}^2$
5.  $13 \text{ cm}^2$
6.  $15 \text{ cm}^2$
7.  $20 \text{ cm}^2$
8.  $15 \text{ cm}^2$
9.  $12 \text{ cm}^2$
10.  $16 \text{ cm}^2$
11.  $16 \text{ cm}^2$

## Activity 2



## Activity 3

1.  $13 \text{ cm}^2$
2.  $47 \text{ cm}^2$
3.  $47 + 13 + 15 + 24 + 9 = 108 \text{ cm}^2$

## Worksheet 88: Bar graphs (1)

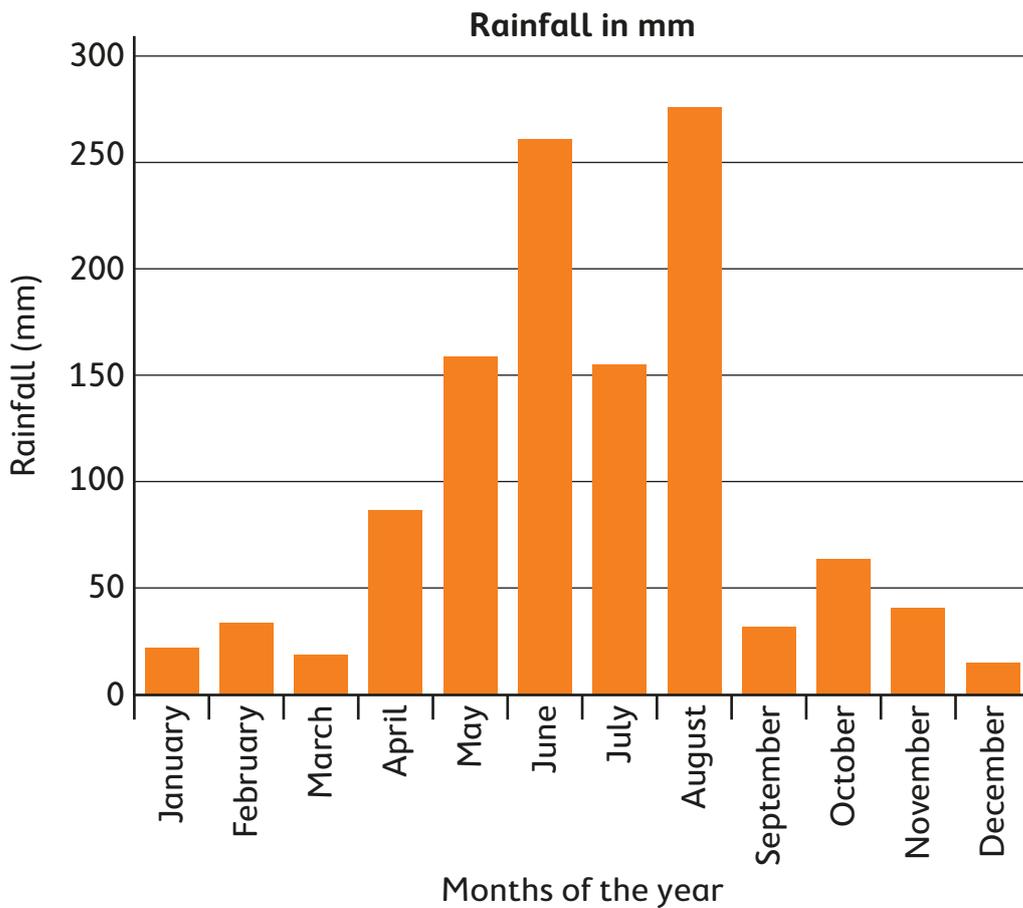
### Activity 1

1. Steenbras upper
2. Berg River
3. Voelvlei
4. Steenbras upper
5. About 26%
6. Increased rainfall or implementations of water restrictions
7. Voelvlei

## Worksheet 89: Bar graphs (2)

### Activity 1

1.



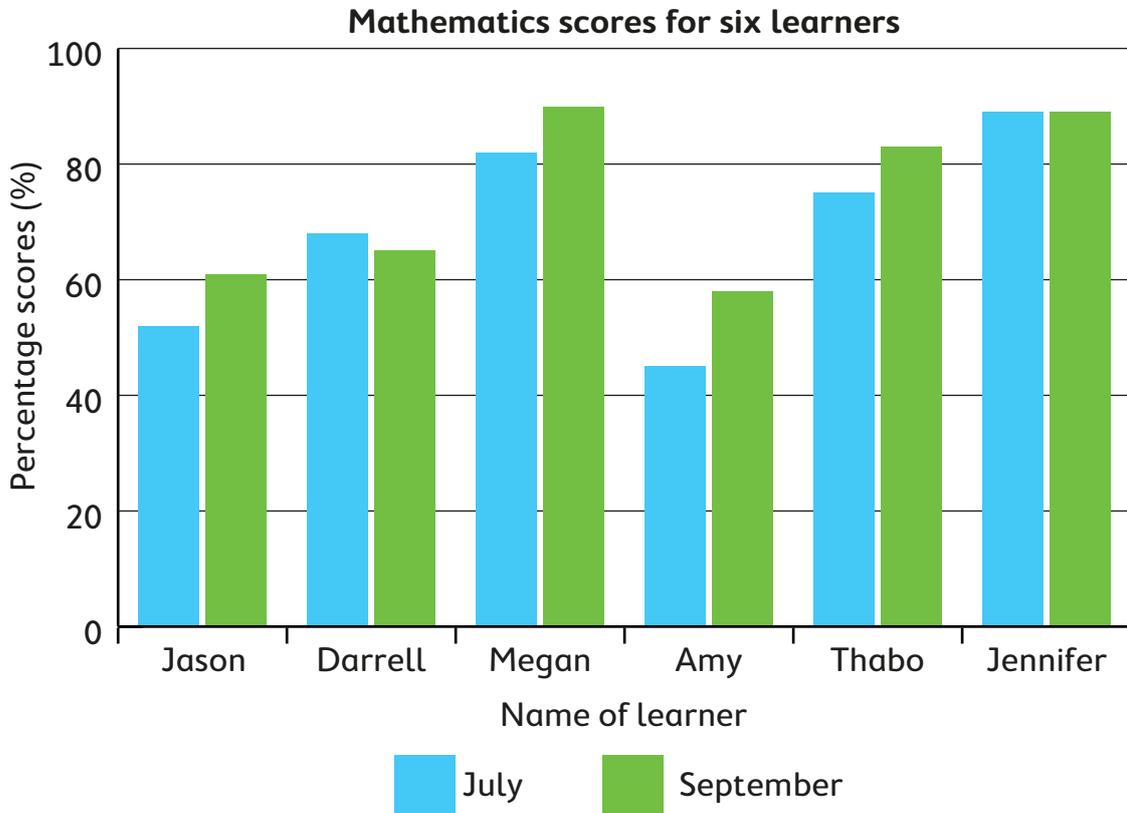
2. 

a) August	b) December
c) 261 mm	d) 52,5 mm (between 41 and 64)

## Worksheet 90: Bar graphs (3)

### Activity 1

1.



2. Darrell

3. Amy

4. Jennifer. She had the highest average mark of July and September

5. 71,5 (half way between 68 and 75)

## Worksheet 91: Pictographs (1)

### Activity 1

1. 4 litres

2. 7 litres

3. Flushing the toilet

4. Drinking

5. 80 litres (excluding 7 litres of saving)

6. 3 litres

## Worksheet 92: Pictographs (2)

### Activity 1

1. R14 050
2. Rent/bond. The family is paying off a house which is expensive.
3. Water and electricity, and food

4.

Expense	Amount
Water and electricity	
Rent/bond	
Vehicle repayment	
Health	
Food	
Clothing	

## Worksheet 93: Pie charts (1)

### Activity 1

1. 62, 68, 74, 74, 74, 82, 87. Mode: 74. Median: 74
2. 16, 19, 23, 27, 27. Mode: 27. Median: 23
3. 35, 35, 35, 40, 43, 45, 46, 46. Mode: 35. Median: 41,5
4. 18, 21, 22, 23, 25, 25, 26, 34. Mode: 25. Median: 24
5. 12, 15, 15, 16, 17, 18, 19, 20, 20. Mode: 15 and 20. Median: 17

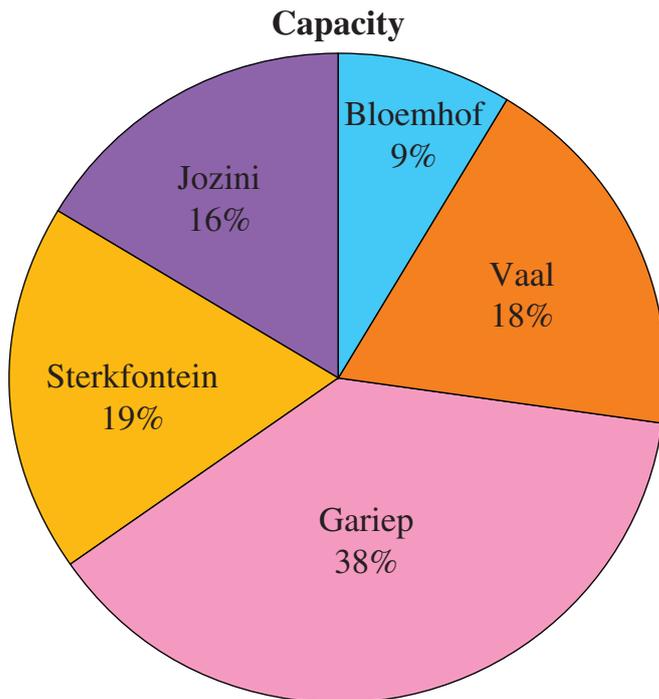
### Activity 2

- |                 |                     |
|-----------------|---------------------|
| 1. 3%           | 2. Garden           |
| 3. 2 400 litres | 4. 22%, 2 640 litre |

## Worksheet 94: Pie charts (2)

### Activity 1

1. 1 240 ML, 2 267 ML, 2 603 ML, 2 616 ML, 5 340 ML
2. 14 066 ML
3. Gariep
- 4.



## Worksheet 95: Probability

### Activity 1

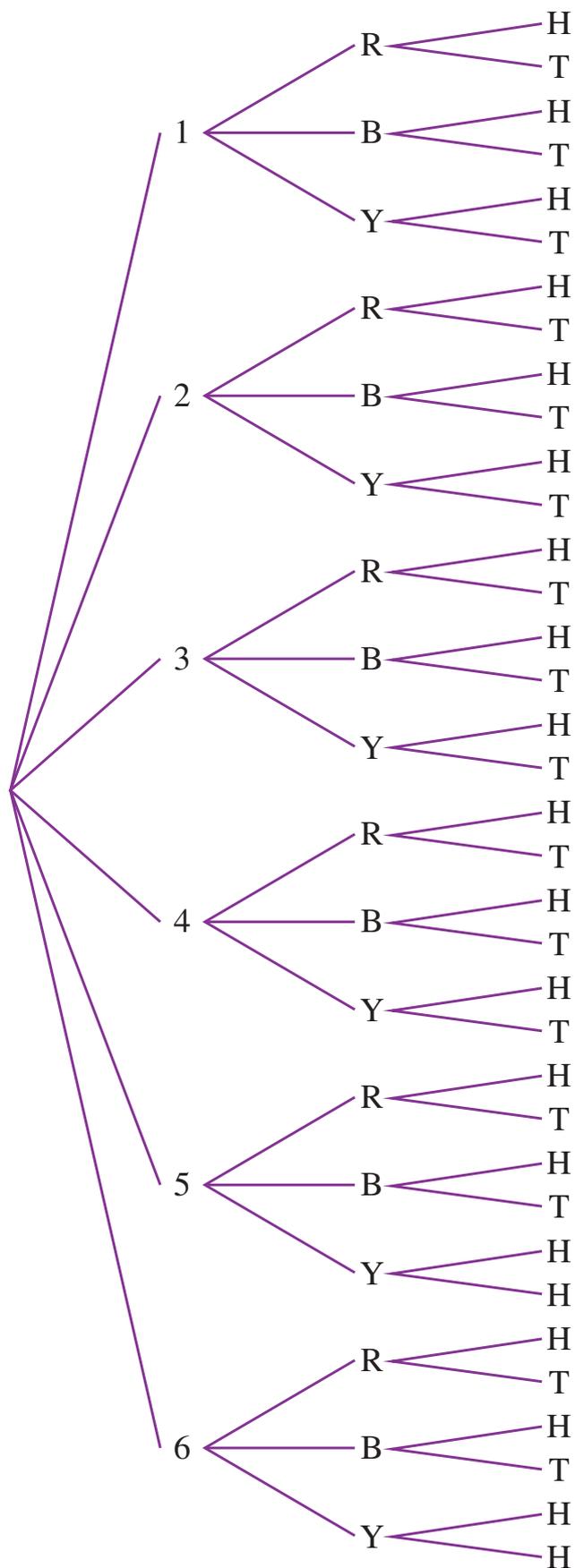
1. Heads or tails
2.
  - a) Red, Black, Blue, Yellow
  - b) Red heads, Red tails, Black heads, Black tails, Blue heads, Blue tails, Yellow heads, Yellow tails,
3. 1H, 1T, 2H, 2T, 3H, 3T, 4H, 4T, 5H, 5T, 6H, 6T.

### Activity 2

1. Red = 13; Blue = 12; Yellow = 10
2. 35 times
3. Red

## Topic 5: Data handling

### Extension Activity



**Worksheet 96: Mental maths (1)**

1. 9
2. 313 236, 133 256, 33 234, 13 258, 3 237
3.  $100\ 000 + 40\ 000 + 5\ 000 + 600 + 20$
4. **a)** 4                      **b)** 800                      **c)** 2                      **d)** 2
5. 5
6. 1 002
7. 6 096
8. 2 182
9. 844
10. 4 284
11.  $2^3 \times 3^2$
12. 76 m
13.  $5\frac{1}{3}$  hours
14. 90 years
15. 3 500 grams
16. 2 500 ml

**Worksheet 97: Mental maths (2)**

1. 61 500; 63 000; 64 500; 66 000; 67 500; 69 000
2. **a)** 1 528                      **b)** 764
3. 8; 8; 112
4. 32; 64; 128
5. 7; 4
6. **a)** 9 000                      **b)** 6 233                      **c)** 853                      **d)** 704
7.  $\frac{4}{5}$
8. 20
9. **a)**  $\frac{1}{6}$                       **b)**  $\frac{10}{25}$
10. **a)**  $\frac{5}{10} = \frac{1}{2}$                       **b)**  $\frac{12}{14} = \frac{6}{7}$
- c)**  $6\frac{1}{3}$                       **d)**  $3\frac{7}{9}$
- e)**  $2\frac{4}{7}$                       **f)**  $7\frac{3}{6} = 7\frac{1}{2}$

# Revision

11.  $3\frac{1}{4}$

12. Pentagon

13. 18:04

14.



15. 07:08

16. 216 flowers

## Worksheet 98: Mental maths (3)

1. a) 6,5

b) 0,16

2. a)  $\frac{3}{10} = 30\%$

b)  $\frac{125}{1000} = 12,5\%$

3. a) 2,25

b) -17,34

4. a) R80

b) 72

5. a)  $9\frac{4}{10}$

b)  $3\frac{4}{10}$

c)  $7\frac{8}{10}$

d)  $4\frac{1}{2}$

6. 61; 55; 49; 43; 37; 31

7. a) Right angle

b) Acute angle

8. 2 m 19 cm

9. 52 m 47 cm

10.  $391 \text{ cm}^2$

11. 12:14

12. Quarter to ten in the morning

13. 7 hours 20 minutes

14. 60 cubes

15.  $\frac{1}{8} = 12,5\%$