Unit 1

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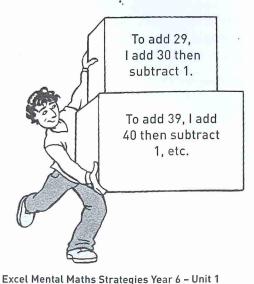
- **1** 20 + 12
- **2** 40 9
- 3 5×4
- **4** 30 ÷ 6
- **5** \$1.50 + \$1.25
- 6 Place value of 7 in 3 756
- **7** 0.31 as a fraction
- 8 Round off 1 654 to nearest hundred
- **9** Tenths in $\frac{3}{10}$
- **10** $\frac{1}{2}$ of 16
- 11 Roman numeral for 150
- 12 Is 9 divisible by 3?
- 13 Next odd number after 31
- **14** 6 + = 18
- 15 Centimetres in 6 m
- 16 Perimeter of rectangle 4 m by 7 m
- 17 Litres in 6 000 mL
- 18 Kilograms in 4 000 g
- 19 25 past 7 as digital time
- 20 Are opposite sides equal on a rectangle?

B

- **1** 19 + 24
- **2** 37 8
- 3 7×6
- **4** 35 ÷ 5
- **5** \$1.35 + \$2.20
- 6 Place value of 4 in 4 367
- **7** 0.47 as a percentage
- 8 Round off 7 890 to nearest thousand
- **9** Is $\frac{1}{4} = \frac{3}{8}$?
- **10** $\frac{1}{2}$ of 24
- 11 What number is 7 more than 3 896?
- **12** Is 6 a factor of 30?
- 13 Last even number before 92
- **14** 8, 16, 24,
- 15 Millimetres in 4·2 cm
- 16 Area of square with 5 cm sides
- 17 Millilitres in 3 L
- **18** Grams in 7 kg
- 19 Use am or pm to write 3:47 morning
- 20 How many sides has a hexagon?



Complete the addition grids.



2

+	22	26	33	35	41	46
19						
29						
39						
49						

+	23	25	32	34	45	47
19						
29						
59						
69						

C

To add 19,

I add 20 then

subtract 1.

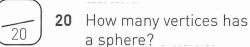
- 1 38 + 6
- **2** 52 9
- 3 6×8
- **4** 42 ÷ 6
- **5** \$1.30 + \$5.40
- 6 Place value of 7 in 75 916
- 7 65% as a decimal
- 8 Round off 8 568 to nearest thousand
- 9 Is $\frac{1}{5} = \frac{2}{10}$?
- **10** $\frac{1}{9}$ of 32
- 11 Roman numeral for 347
- 12 All factors of 40
- 13 Is 409 an odd number?
- **14** 7, 14, 21,
- 15 Millimetres in 3.8 cm
- 16 Area of square with 3 cm sides
- 17 Millilitres in 8 L
- 18 Grams in 5 kg
- 19 Use am or pm to write 4:57 evening
- 20 How many sides has a pentagon?

To add 99,

I add 100 then

subtract 1.

- **1** 99 + 27
- 96 14
- **3** 90 × 4
- **4** 270 ÷ 3
- **5** \$3.35 + \$4.45
- **6** Place value of 6 in 368 951.
- **7** 0.1 as a percentage
- 8 Round off 52 498 to nearest thousand
- 9 Is $\frac{3}{5}$ the same as $\frac{6}{10}$?
- **10** $\frac{3}{4}$ of 20
- 11 Hindu-Arabic numeral for CCXCVI
- **12** Is 6 a factor of 48?
- 13 6 squared
- **14** 35 + = 6
- 15 Centimetres in 9.5 m
- 16 Area of rectangle 5 cm by 9 cm
- 17 Millilitres in 4.5 L
- 18 Grams in 6.5 kg
- **19** Use am or pm to write 3:47 morning

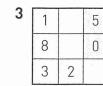




In magic squares, each row, column and diagonal add up to the same number. Complete the following magic squares.

1		3	
		5	
	6	7	

2	3		5
		6	
			9

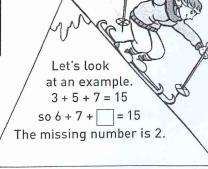


4		3	8
		7	
	6		



6	13		10	
	14	3		
		12	6	
	2	15		16

,	5		6	
	2	15		
	9	4		
	14	3	13	



Hint: Begin with the row, column or diagonal that has all the numbers.

30 + 16

2 60 - 8

 5×9

 $45 \div 5$

\$1.30 + \$2.55

Place value of 6 in 6 029

0.61 as a fraction

Round off 2 449 to nearest hundred

Is $\frac{3}{6} = \frac{5}{10}$?

10 $\frac{1}{2}$ of 15

11 Roman numeral for 164

12 Is 3 a factor of 12?

13 Ordinal number for sixteenth

14 15 –

15 Millimetres in 9 cm

16 Perimeter of rectangle 6 m by 4 m

17 Litres in 8 000 mL

18 Kilograms in 5 000 g

19 20 past 6 as digital time

20 Are the angles equal in a square?



29 + 35

32 - 19

 9×6

 $42 \div 7$

\$1.65 + \$3.40

Place value of 3 in 69 321

0.65 as a percentage

Round off 8 345 to nearest thousand

10 $\frac{3}{5}$ of 20

11 Number 100 after 5 739

12 All factors of 20

13 Is 55 a square number?

14 42, 35, 28,

15 Millimetres in 3.6 cm

16 Area of square with 4 cm sides

17 Millilitres in 9 L

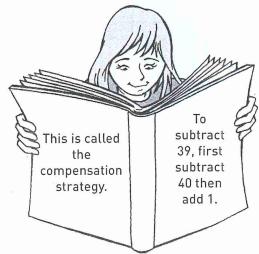
18 Grams in 5 kg

19 Use am or pm to write 6:35 evening

20 How many faces has a rectangular prism?



Complete the subtraction grids.



	72	76	81	85	93	97
-19						
-39						
-59						
-69						

	64	68	73	76	81	85
-19						
-29	_					
-39						
-49						

To subtract

19, I subtract

20 then add

1 59 + 7

52 - 14

 8×6

 $36 \div 6$

\$1.65 + \$1.40

Place value of 4 in 74 589

0.53 as a percentage

Is 1 516 less than 1 416?

Is $\frac{2}{3}$ the same as $\frac{6}{10}$?

10 $\frac{1}{5}$ of 45

11 What number is 6 more than 8 358?

360 is 36 tens

so $360 \div 4$ is

9 tens. i.e.

 $360 \div 4 = 90$

12 All factors of 18

13 Ordinal numbeer for fifteenth

14 123, 133, 143,

15 Millimetres in 5.6 cm

16 Area of square with 6 cm sides

17 Millilitres in 9 L

18 Grams in 7 kg

19 Use am or pm to write 3:29 morning

20 A cylinder has curved surfaces.

89 + 36

65 – 19

 80×7

 $280 \div 4$

\$3.40 - \$1.36

60 000 + 7 000 + 4 000 + 600 + 3

0.7 as a percentage

Round off 28 537 to nearest thousand

 $\frac{9}{7}$ as a mixed number

10 $\frac{5}{9}$ of 40

11 50 more than 9 476?

12 Is 5 a prime number?

13 9²

14 1 475, 1 575, 1 675,

15 Centimetres in 7.5 m

16 Area of rectangle 4 cm by 8 cm

17 Millilitres in 6.5 L

18 Grams in 9.5 kg

- 19 Use am or pm to write 4:38 evening

20 A cone has curved surfaces.



Name each solid shape.



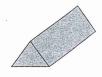


Which solids have curved surfaces? Which solids have only flat surfaces?



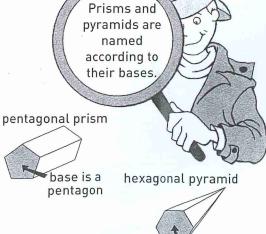












Excel Mental Maths Strategies Year 6 - Unit 2

 $7 \times 8 = 56$

 $56 \div 8 = 7$

 $56 \div 7 = 8$

 $6 \text{ tens} \times 7 = 42 \text{ tens}$

A

1 40 + 36

2 90 - 8

3 5×7

4 40 ÷ 8

5 \$3.45 + \$2.35

6 Place value of 3 in 2 309

7 0.84 as a fraction

Is 9 642 greater than 9 462?

9 Fifths in $\frac{4}{5}$

10 $\frac{1}{2}$ of 24

11 Roman numeral for 139

12 Is 35 divisible by 7?

13 Even number after 699

14 25 + = 59

15 Millimetres in 7 cm

16 Perimeter of rectangle 8 m by 3 m

17 Millilitres in 6 L

18 Grams in 9 kg

19 28 past 11 as digital time

20 How many right angles has a rectangle?



1 39 + 26

2 54 – 28

3 8×7

4 63 ÷ 9

\$2.45 + \$3.95

6 8 000 + 500 + 40 + 9

7 0.54 as a percentage

8 Round off 25 683 to nearest thousand

9 $\frac{10}{3}$ as a mixed number

10 $\frac{1}{4}$ of 24

11 What number is 9 less than 2 456?

12 All factors of 30

13 6²

14 120, 140, 160, 180,

15 Centimetres in 39 mm

16 Area of square with 8 cm sides

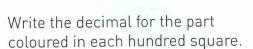
17 Litres in 3 000 mL

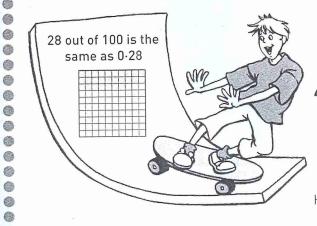
18 Kilograms in 9 000 g

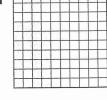
19 Minutes from 2:37 to 3:04

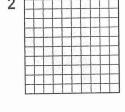
20 A triangular pyramid has faces.



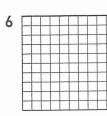












Hint: Final zeros in a decimal may be omitted e.g. 0.60 is 0.6. 60 hundredths is the same as 6 tenths.

1 58 + 6

2 35 – 19

3 8×8

4 72 ÷ 9

5 \$2.95 + \$1.35

6 Place value of 4 in 64 297

7 0.95 as a percentage

8 Round off 45 678 to nearest thousand

9 $2\frac{3}{5}$ as improper fraction

10 $\frac{1}{10}$ of 90

11 What number is 20 more that 3 645?

12 All factors of 20

13 3 squared

14 14 + = 35

15 Millimetres in 4.7 cm

16 Area of rectangle 3 cm by 9 cm

17 Millilitres in 8 L

18 Kilograms in 7 000 g

19 Use am or pm to write 6:51 evening

20 A hexagonal pyramid has faces.

8

6

8

9

7

Complete the multiplication grids.

6

9

5

7

n

1 154 + 20

2 245 – 30

3 90 × 6

4 320 ÷ 8 **5** \$6.20 - \$1.35

6 Expanded notation for 15 729

 $7 \quad 0.9 \text{ as a percentage}$

8 Round off 457 964 to nearest ten thousand

9 $\frac{14}{3}$ as a mixed number

10 $\frac{3}{5}$ of 35

11 What number is 100 more than 8 457?

12 Is 6 a composite number?

13 8²

14 + 28 = 52

15 Millimetres in 9.6 cm

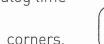
16 Area of rectangle 3 cm by 8 cm

17 Millilitres in 7.5 L

18 Grams in 4.8 kg

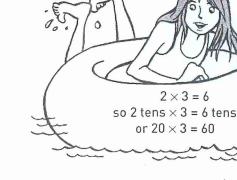
19 Write 2:24 am in analog time

20 A cube has corners.



2

When I know $2 \times 3 = 6$ I also know $20 \times 3 = 60$



Excel Mental Maths Strategies Year 6 – Unit

Excel Mental Maths Strategies Year 6 - Unit 3

 ×
 9
 4
 7
 5
 8
 6

 10
 20
 30
 30
 30
 30

- 36 + 9
- 60 8
- 5×6
- $42 \div 7$
- \$2.95 \$1.55
- 500 + 40 + 8
- 0.65 as a fraction
- Round off 3 579 to nearest thousand
- 9 Quarters in $\frac{3}{4}$
- 10 $\frac{1}{5}$ of \$20
- **11** Is 6 795 less than 6 975?
- **12** Is 5 a factor of 30?
- 13 Ordinal number for twelfth
- = 35 14 5×
- 15 Centimetres in 40 mm
- 16 Perimeter of rectangle 8 cm by 3 cm
- 17 Millilitres in 9 L
- 18 Grams in 6 kg

Factor wheels show all the factors of a

number.

19 Minutes from 4:21 to 4:57

Complete the factor wheels.

20 How many sides has a decagon?



 $1 \times 8 = 8$

- 59 plus 37
- 46 minus 8
- 9 times 8
- 56 divided by 7
- \$6.45 \$2.80
- Place value of 9 in 69 485
- 0.7 as a percentage
- Round off 98 456 to nearest thousand
- $3\frac{2}{5}$ as improper fraction
- 10 $\frac{1}{5}$ of 30
- 11 What number is 5 less than 14 082?
- 12 All factors of 36
- 13 Ordinal number for twenty-fifth
- = 64
- 15 Centimetres in 58 mm
- 16 Area of square with 7 cm sides
- **17** Litres in 5 000 mL
- 18 Kilograms in 4 000 g
- **19** Minutes from 5:32 to 6:19
- 20 How many faces has a triangular prism?



The factors of 12 are 1, 12, 2, 6, 3 and 4. $1 \times 12 = 12$, $2 \times 6 = 12$,

 $3 \times 4 = 12$

- 1 79 plus 4
- 2 63 minus 8
- 7 times 5
- 81 divided by 9
- \$1.55 + \$2.95
- Numeral for sixty-five thousand and forty
- 0.63 as a percentage
- Is 9 076 greater than 9 760?
- $2\frac{2}{5}$ as improper fraction
- 10 $\frac{1}{3}$ of \$24
- 11 Roman numeral of 297
- **12** Is 40 divisible by 6?
- 13 Ordinal number for thirty-first
- + 29 = 57
- 15 Centimetres in 58 mm
- 16 Area of a square with 9 m sides
- 17 Litres in 9 000 mL
- 18 Kilograms in 6 000 g
- **19** Minutes from 4:21 to 4:59
- 20 How many surfaces has a cylinder?

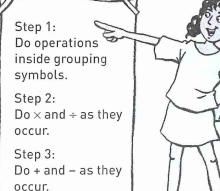


- Sum of 97 and 35
- Difference between 96 and 38
- 70×9
- $450 \div 5$
- \$9.35 \$6.75
- Place value of 7 in 367 594
- 97% as a decimal
- Is 45 639 < 45 963?
- $1\frac{7}{2}$ as improper fraction
- $\frac{9}{10}$ of \$60
- 11 What number is 200 after 5 824?
- 12 Is 16 a composite number?
- **13** 10²
- **14** $10 + 5 \times 7$
- 15 Centimetres in 9.5 m
- 16 Area of a square with 12 m sides
- 17 Volume of cube with 2 cm sides
- 18 Kilograms in 8 500 g
- 19 25 to 4 in digital time
- 20 A rectangular prism has corners.



Use three of the numerals 3, 4, 5, 12 or 15 to complete each number sentence. Use any numeral only once in each question.

- = 12
- = 24
- = 10



steps.

Follow the



For 76 - 28

say 76 - 20 = 56

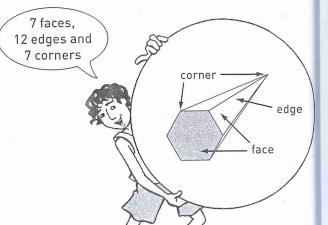
then 56 - 8 = 48

- 45 + 23
- 70 12
- 8×5
- $36 \div 6$
- \$10.00 \$4.85
- 9 000 + 700 + 30 + 6
- 0.3 as a fraction
- Round 12 685 to nearest thousand
- 9 Is $\frac{2}{5}$ the same as $\frac{3}{10}$?
- 10 $\frac{1}{3}$ of 21
- 11 Hindu-Arabic numeral for CLXI
- **12** Is 3 a factor of 37?
- 13 Ordinal number for twentieth
- **14** 645, 545, 445,
- 15 Millimetres in 3.5 cm
- 16 Perimeter of square with 6 cm sides
- 17 Litres in 9 000 mL
- 18 Kilograms in 3 000 g
- 19 20 to 8 morning as digital time
- 20 A square has diagonals.



Complete the table to show the number of faces, edges and corners on each pyramid.

Pyramid	Faces	Edges	Corners
Triangular			
Rectangular			41
Pentagonal			
Hexagonal			
Heṗtagonal			
Octagonal			
Decagonal			



- To 84 add 16
- 35 less than 67
- 10 times 17
- 56 divided by 7
- 5.6 + 2.9
- 80 000 + 5 000 + 30 + 8
- Is 95% equivalent to 0.95?
- Is 35 647 closer to 35 000 or 36 000?
- 9 $4\frac{1}{4}$ as an improper fraction
- 10 $\frac{1}{10}$ of 160
- 11 Roman numeral for 392
- 12 Next prime number after 7
- **13** 3² + 2
- **14** 20 (3 × 4)
- 15 Metres in 6.5 km
- **16** Area of rectangle 5 m by 8 m
- 17 Millilitres in 3.5 L
- 18 Grams in 7.5 kg
- 19 9:26 pm as analog time
- 20 How many degrees in a right angle?



rdinal number for

twenty-third.

- 46 plus 27
- 10 times 16
- 72 divided by 9

65 minus 38

- 2.9 + 5.8
- 90 000 + 6 000 + 800 + 70 + 3
- Is 80% equivalent to 0.8?
- Is 6875 > 6785?
- $1\frac{5}{2}$ as improper fraction
- $\frac{3}{8}$ of 40
- 11 Hindu-Arabic numeral for CCLXXVII
- 12 Is 21 a composite number?
- **13** Is 3 457 an odd number?
- 14 $6 \times [4+7]$
- 15 Centimetres in 25 mm
- 16 Area of rectangle 4 m by 7 m
- 17 Litres in 9 500 mL
- 18 Kilograms in 7.5 t
- 19 Is 4:57 am before noon?
- 20 Degrees in two right angles

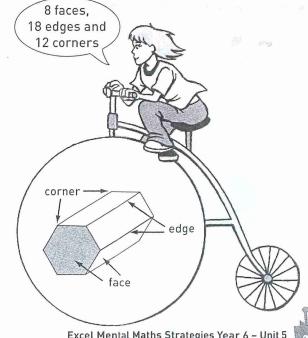


- 175 + 89
- 364 38
- 73×10
- $840 \div 10$
- \$12.00 \$9.70
- Place value of 9 in 937 291
- 95% as a decimal
- Round off 57 368 to nearest hundred
- Improper fraction for $3\frac{2}{3}$
- 10 $5 \times \frac{2}{5}$
- 11 What number is 500 before 9 468?
- 12 Are 3 and 9 both factors of 36?
- **13** 8² 36
- **14** 3 700, 3 800, 3 900,
- 15 Centimetres in 5.4 m
- **16** Area of rectangle 7 cm by 11 cm
- 17 Volume of cube with 4 cm sides
- **18** Grams in 3.6 kg
- **19** 8:47 am in 24-hour time
- 20 How many faces has a triangular prism?



Complete the table to show the number of faces, edges and corners on each prism.

Prism	Faces	Edges	Corners
Triangular			
Rectangular			
Pentagonal			
Hexagonal	,		
Heptagonal			
Octagonal			
Decagonal	8	- 3	



Unit 6

A

- 1 24 + 45
- 80 14
- 3 8×8
- **4** 54 ÷ 9
- **5** \$10.00 \$5.45
- 6 6 000 + 900 + 40 + 5
- 7 0.9 as a fraction
- 8 Is 6 752 closer to 6 700 or 6 800?
- **9** How many thirds in $1\frac{1}{3}$?
- **10** $\frac{1}{5}$ of 40
- 11 Roman numeral for 164
- **12** All factors of 15
- 13 Ordinal number for thirteenth
- **14** × 5 = 45
- 15 Millimetres in 7.5 cm
- 16 Perimeter of square with 12 m sides
- **17** Litres in 7 500 mL
- 18 Kilograms in 8 000 g
- **19** 4:05 in analog time

20 What shape is the face of a cube?



B

- **1** 77 plus 19
- **2** 46 minus 27
- 3 10 times 14
- 4 64 divided by 8
- **5** Double \$4.55
- **6** 50 000 + 8 000 + 400 + 30 + 8
- **7** Is 75% the same as 0.70?
- 8 Is 35 647 less than 35 764?
- 9 Is $3\frac{3}{4}$ equivalent to $\frac{14}{4}$?
- 10 $\frac{3}{8}$ of 32
- 11 Roman numeral for 348
- 12 Is 35 a prime number?
- **13** 8²
- 14 $(4 + 8) \times 4$
- 15 Metres in 9.5 km
- 16 Area of rectangle 5 cm by 9 cm
- 17 Millilitres in 6.5 L
- 18 Grams in 9.5 kg
- 19 8:47 am as analog time
- 20 How many flat surfaces has a cone?



C

A revolution

is one complete

turn or 360°

- 1 64 plus 27
- **2** 95 minus 68
- 3 10 times 13
- 4 72 divided by 8
- **5** 8·4 + 7·9
- 6 70 000 + 4 000 + 200 + 90 + 6
- 7 Is 80% the same as $\frac{8}{10}$?
- 8 Is 9 521 < 9 251?
- Is $\frac{15}{8}$ equivalent to $1\frac{3}{8}$?
- 10 $\frac{3}{10}$ of 40
- 11 Roman numeral for 296
- 12 All factors of 40
- **13** 5²
- 14 9 + 12 2 × 4
- 15 Millimetres in 6.5 cm
- 16 Area of rectangle 3 cm by 10 cm
- 17 Litres in 6 500 mL
- 18 Kilograms in 4.5 t
- 19 Days in one year
- 20 Degrees in a straight angle



- **1** 186 + 97
- **2** 232 49
- 3 35 × 10 4 950 ÷ 10
- **F #11 /0 #7 //**
- **5** \$11.40 \$7.60
- **6** Place value of 5 in 158 407
- 7 35% as a decimal
- 8 Is 64 219 > 64 218?
- **9** Mixed number for $\frac{14}{5}$
- 10 $3 \times \frac{3}{4}$
- 11 What number is 300 after 6 897?
- 12 All factors of 35
- **13** 11²
- 14 95 7 × 8 9
- 15 Centimetres in 3.7 m
- 16 Area of rectangle 8 m by 9 m
- 17 Volume of cube with 3 cm sides
- 18 Grams in 6.5 kg
- **19** 10:29 pm in 24-hour time
- 20 Degrees in three right angles



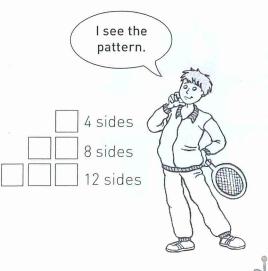
Complete the table for each geometric pattern.

Number of hexagons	1	2	3	4	5	6
Number of sides	6					

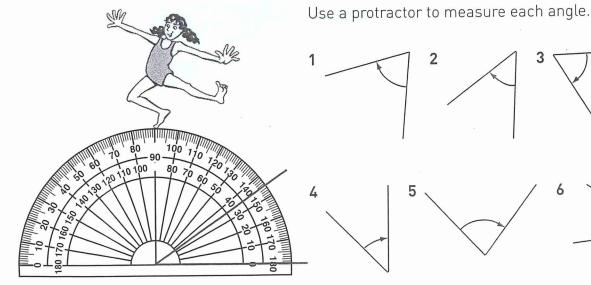
_	Number of heptagons	1	2	3	4	5	6
	Number of sides	7					

Number of decagons	1	2	3	4	5	6
Number of sides	10					

Number of pentagons	1	2	3	4	5	6
Number of sides	5					



Excel Mental Maths Strategies Year 6 - Unit 6





Unit 8 Revision A

1	Place value of 6 in:

- **a** 3 675
- **b** 26 491
- **c** 654 892

2 Roman numeral for:

- **a** 232
- **b** 197
- c 378
- **d** 359

3 Write:

- **a** 0.65 as a percentage
- **b** 75% as a fraction
- **c** 0.4 as a percentage
- **4 a** 45 plus 36
 - **b** 92 minus 37
 - **c** 9 times 40
 - **d** 45 divided by 9

5 Round off to nearest thousand:

- **a** 4 679
- **b** 26 368
- **c** 376 521

6 Write all factors of:

- **a** 24
- **b** 36
- **c** 45

7 Write the number that is:

- **a** 100 after 23 468
- **b** 1 000 before 478 569

8 What is:

- **a** half of 38
- **b** half of 48

9 a $6 + 9 \times 4$

- **b** $3 \times 8 + 4 \times 9$
- c $3 \times 5 18 \div 6$

10 Write:

- a 23 to 6 as digital time
- **b** 29 past 11 as digital ime
- c 3:55 as analog time

11 How many:

- a millilitres in 3.5 L
- **b** kilograms in 2 500 g
- c metres in 456 cm
- d kilometres in 5 500 m

12 What is the perimeter of each shape?







13 How many surfaces has each shape?







14 What is the area of each shape?





Revision B



- **b** 5 000 20 + 1
- c 20 000 + 9 000 + 50 + 3

Write as a decimal:

- a $\frac{9}{10}$
- **b** 1 and $\frac{45}{100}$
- c 5 tenths and 7 hundredths

3 What number follows:

- a 7 958
- **b** 26 394
- c 68 599

- **b** 94 = 58
- **c** 7 × = 56
- **d** 63 ÷ = 21

5 How many:

- a days in 5 weeks
- **b** months in 3 years
- c weeks in a year

6 a Is $\frac{3}{4}$ the same as $\frac{6}{8}$?

- **b** Is $1\frac{2}{3}$ equal to $\frac{5}{3}$?
- c Is $\frac{9}{4}$ a mixed number?
- **d** Is $\frac{7}{3}$ equal to $2\frac{1}{3}$?

7 Write the number that is:

- **a** 100 after 46 954
- **b** 1 000 before 961 347

8 List the first five multiples of:

- a (
- b

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9 Write as 24-hour time:

- **a** 10:45 am
- **b** 3:18 pm
- **c** 9:51 pm
- d 1:39 am

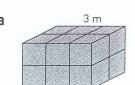
10 Complete the number patterns.

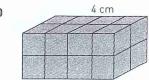
- **a** 45, 54, 63, 72,
- **b** 32, 40, 48, 56, _____,

11 How many:

- a litres in 3 500 mL
- **b** grams in 6.5 kg
- c millimetres in 4.6 cm
- d metres in 9.5 km

12 What is the volume of each shape?





13 How many sides has each shape?

- **a** a hexagon
- **b** a pentagon
- **c** an octagon
- **d** a trapezium

14 Which angles are more than 30°?



15 Record each length shown.

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0	1	2	3	4	5



