Grade

6

Let's Do

Mathematical Activities

Workbook

Answers

Contents

1 Numbers

Flashback zone

Quick-fire 1

1. Thousands
2. 0
3. 1 000
4. 3
5. $2\frac{1}{4}$
6. S = 180
7. 121
8. 41, 43 and 47
9. 18
10. $\frac{1}{4}$
11. 1
12. 0.7 or or one seventh
13. 11
14. 721
15. The number formed by the tens and ones place value digits in the number is a multiple of 4, or the last two digits in the number form a number that is a multiple of 4.

Quick-fire 2

1. Hundreds
2. 800
3. 500
4. X =10
5. 30
6. =
7. Sh 500
8. 41
9. $\frac{2}{3}$
10. 4
11. 48
12. Hundredths
13. 58%
14. Y= 20
15. The digit in the ones place value is either 0, 2, 4, 6 or 8; or the digit in the ones place value is an even number

1.1 Whole numbers (Workbook 6, pages 1 - 14)

Place value of digits in a number

Apply zone

A 1. (a) Tens of thousands
(b) Hundreds of thousands
(c) Ones
(d) Tens

2. (a) (i) Tens of thousands(5)
(b) (i) Tens(5)
(c) (i) Hundreds of thousands(5)
(d) (i) Hundreds(5)
(e) (i) Tens(5)
(ii) Ones(9)
(f) (i) Hundreds (5)
(ii) Tens of thousands(9)
(g) (i) Hundreds (5)
(ii) Tens of thousands(9)

(h) (i) Hundreds of thousands(5) (ii) Millions (9)

3. Thousands 4. Hundreds.

B 1.

Hundreds of thousands	Tens of thousands	Thousands	Hundreds	Tens	Ones
3	8	0	7	6	5

2. Hundreds of thousands
3. (a) 107 412 (b) Thousands
   (c) -wearing masks
   -washing of hands with water and soaps
   -observing social distance
   -receiving vaccination against Covid-19.
4. (a) Tens of thousands (b) Build immunity against Covid-19.
5. Tens of thousands

Total value of digits in a number

Apply zone

A 1.

Number	Digit	Total value	Digit	Total value	Digit	Total value
50 841	5	50000	8	800	4	40
17 623	6	600	2	20	3	3
46 189	4	4000	1	100	9	9
524 730	5	500000	7	700	3	30
8 320	8	8000	3	300	2	20
14 817	4	4000	8	800	1	10

2. (a) 30 (b) 30 000 (c) 3000 (d) 300 000
   (e) 3 000 000 (f) 3 000 000
3. 1000

B 1. (a) 100 (b) - bring people together
- create cohesive society
- enhance development

2. (a) 300 000 (b) - modelling of morals and values
- custodian of the societal norms and values

3. 4 000
4. (a) 8 000 (b) 100 000

Reading and writing numbers in words and symbols

Apply zone

A 1. (a) Two hundred and thirty five thousand, eight hundred and ninety five.

(b) Nine million, eight hundred and fifty thousand, two hundred and one.
(c) Two million, five hundred and eighty seven, three hundred and ten.
(d) Eight hundred and fifty three thousand, one hundred and four
(e) One hundred thousand, two hundred and forty seven.

2. (a) 100 027 (b) 720 856 (c) 300 501

B 1. (a) One million, two hundred and thirty four thousand, five hundred and six.

(b) -enhances healthy
- Brings people together
-promotes unity and enhances cohesion
-one can create a career.

2. (a) (i) 783 515
(ii) Seven hundred and eighty three thousand, five hundred and fifteen
(b) -earn foreign exchange -used to prepare beverages
-creates employment

3. 725 715 4. 658 765

5. (a) Five hundred and five (b) Two thousand and twenty
(c) Three thousand, five hundred and thirty five

6. (a) Six hundred and twenty eight thousand, seven hundred and nine.
(b) Limiting speed for the safety of passengers

Writing numbers in ascending and descending order

Apply zone

A 1. (a) 8 127, 8 172, 8 217, 8 271, 8 712
(b) 26 359, 26 395, 26 532, 26 539, 26 593
(c) 34 759, 34 859, 34 895, 34 958, 34 985
(d) 93 456, 93 546, 93 564, 93 645, 93 654

2. (a) 7 546, 7 465, 7 456, 7 254, 7 245
(b) 85 763, 85 673, 85 637, 85 376, 85 367
(c) 49 321, 49 312, 49 231, 49 213, 49 132
(d) 64 872, 64 787, 64 782, 64 728, 64 287

B 1. (a) 8 569, 9 825, 9 852, 12 015, 13 051 (b) Region C

2. (a) 19 102, 20 018, 20 108, 21 081(b) April

3. (a) 30 439, 30 934, 36 349, 36 394, 36 943 (b) February
(c) -storing information -for learning and research
-transmitting information -preparing documents

4. (a) 1 491, 1 201, 1 097, 1 079, 598 (b) Tuesday

(c) Knowing your health status assist in prevention, medication and lifestyle change.

5. (a) 59 632, 59 623, 59 326, 56 932, 56 923 (b) Thursday

Rounding off numbers to the nearest thousand

Apply zone

A 1. 9 000 2. 8 000 3. 9 000 4. 3 000 5. 2 000
6. 8 000 7. 9 000 8. 87 000 9. 28 000 10. 91 000
11. 53 000 12. 38 000 13. 49 000 14. 99 000

B 1. (a) Sh 49 000
(b) Keep mosquitoes away hence help in prevention of Malaria 9 000
2. 9 000
3. (a) 5000
(b) (i) Assist in communication (ii) Sending mobile money
(iii) Assist in learning

Squares of whole numbers

Apply zone

A 1. (a) 100 (b) 121 (c) 225 (d) 1 369
(e) 1 764 (f) 576
2. (a) 361 (b) 961 (c) 2025
(d) 3 136 (e) 3 721 (f) 8 649
3. (a) 5 625 (b) 7 056 (c) 9 801

B 1. (a) 1 600 m^2 (b) 64 tiles
2. (a) 324 m^2
(b) (i) Reduces kitchen expenses (ii) Supplement the family diet
(iii)Promote water re-use
3. 8100 m^2

Square roots of whole numbers

Apply zone

A 1. 28 2. 21 3. 34 4. 27 5. 53
6. 100 7. 45 8. 15 9. 20 10. 24

B 1. 25 2. 29 3. 53 4. 21

1.2 Multiplication (Workbook 6, pages 14 - 17)

Multiplication

Apply zone

A 1. 43 200 2. 20 400 3. 127 200 4. 14 860
5. 9 058 6. 27 648 7. 24 003 8. 172 128
9. 344 488

B 1. 12 150 2. 11 220 3. 27 600 4. 4 460
5. 2 628 6. 19 600 7. 32 240

Estimating products by rounding off factors

Apply zone

A 1. 42 600 2. 25 800 3. 358 800 4. 134 000

B 1. Answers will vary from one learner to another. 2. 33 300

Multiplication patterns

Apply zone

A 1. (a) 4 860, 14 580 (b) 1 280, 5 120
2. (a) 2 800, 11 200 (b) 810, 2 430

B 1. 40, 120, 360, 1 080, 3 240, 9 720
2. Answers will vary from one learner to another.

1.3 Division (Workbook 6, pages 18 - 21)

Division of whole numbers

Apply zone

A 1. 1 remainder 5 2. 1 remainder 29 3. 496 remainder 3
4. 711 remainder 7 5. 141 remainder 6 6. 214 remainder 5
7. 123 8. 11 9. 14

B 1. 2 remainder 48 2. 5 3. 216
4. 223 5. 84 6. 140
7. 25

Estimating quotient by rounding off numbers

Apply zone

A 1. 80 2. 28 3. 78 remainder 10 4. 119 remainder 1

B 1. 27 2. 3

Combined operations

Apply zone

A 1. 213 2. 701 3. 339 4. 1 856

B 1. (a) 3 600 ÷ 6 × 10 + 450 – 50 (b) 6 400

1.4 Fractions (Workbook 6, pages 21 - 30)

Least Common Multiple (LCM)

Apply zone

A 1. 12 2. 18 3. 40

B 1. 24 2. 72 3. 35

Addition of fractions

Apply zone

A 1. $\frac{15}{28}$ 2. $1\frac{1}{10}$ 3. $1\frac{1}{9}$

4. $7\frac{8}{18}$ 5. $10\frac{1}{6}$ 6. $6\frac{5}{12}$

B 1. $\frac{7}{12}$ 2. $\frac{11}{12}$ 3. $12\frac{3}{4}$ 4. $4\frac{3}{4}$

Subtraction of fractions

Apply zone

A 1. $\frac{13}{40}$ 2. $\frac{11}{21}$ 3. $\frac{19}{40}$

4. $42\frac{1}{4}$ 5. $17\frac{1}{6}$ 6. $79\frac{1}{6}$

B 1. $5\frac{1}{4}$ 2. $\frac{1}{12}$ 3. $\frac{1}{4}$ 4. $1\frac{3}{4}$ 5. $54\frac{1}{6}$

Reciprocal of fractions

Apply zone

A 1. (a) $\frac{1}{4}$ (b) $\frac{1}{4}$ (c) $2\frac{1}{4}$

2.

Created fraction	Reciprocal
(a) $\frac{3}{4}$	$\frac{4}{3}$
(b) $\frac{16}{7}$	$\frac{7}{16}$
(c) $2\frac{1}{8}$	$\frac{8}{21}$

B 1. (a) $\frac{4}{1}$ (b) $\frac{3}{19}$ (c) $\frac{2}{25}$

2. (a) $\frac{7}{2} \times \frac{2}{7} = \frac{14}{14}$ (b) $\frac{7}{4} \times \frac{4}{7} = \frac{28}{28}$ (c) $\frac{9}{148} \times \frac{148}{9} = \frac{1332}{1332}$

Square of fractions

Apply zone

A 1. $\frac{16}{25}$ 2. $10\frac{6}{25}$ 3. $18\frac{7}{9}$

B 1. $2\frac{1}{4}$ cm^2 2. $240\frac{1}{4}$ cm^2 3. $85\frac{9}{16}$ m^2

Conversion of fractions to equivalent fractions

Apply zone

A 1. $\frac{1}{4} = \frac{25}{100}$ 2. $\frac{3}{20} = \frac{15}{100}$ 3. $\frac{4}{50} = \frac{8}{100}$

B 1. $\frac{6}{10} = \frac{60}{100}$ 2. $\frac{3}{25} = \frac{12}{100}$ 3. $\frac{8}{20} = \frac{25}{100}$

Conversion of fractions to percentages

Apply zone

A 1. 24% 2. 35% 3. 40% 4. 75%

B 1. 40% 2. 50% 3. 15%

Conversion of percentages to fractions

Apply zone

A 1. $\frac{1}{10}$ 2. $\frac{6}{25}$ 3. $\frac{4}{5}$ 4. $\frac{9}{20}$

B 1. $\frac{1}{10}$ 2. $\frac{3}{4}$ 3. $\frac{2}{5}$

1.5 Decimals (Workbook 6, pages 30 - 38)

Place value of decimals up to ten thousandths

Apply zone

A 1. (a) 8 (b) 2 (c) 6 (d) 3 (e) 1 (f) 9

2.

Hundreds	Tens	Ones	Decimal point	Tenths	Hundredths	Thousandths	Ten Thousandths
1	6	9	.	1	6	2	3
	1	5	.	3	2	1	5
1	8	5	.	9	8	5	1
7	0	1	.	0	6	0	3

3. (a) Tens (b) Tens (c) Ten Thousandths
(d) Thousandths (e) Tenths (d) Tenths

B 1. (a) 4.8 tonnes (e) tenths
2. (a) 7.372 litres (b) 2

Rounding off decimals

Apply zone

A 1. (a) 154.1 (1 dp), 154.12 (2 dp) (b) 25.2(1 dp), 25.20(2 dp)
(c) 29.5 (1 dp), 29.51(2 dp) (d) 95.1(1 dp), 95.12(2 dp)
(e) 894.2(1 dp), 894.17(2 dp) (f) 55.3(1 dp), 55.32(2 dp)
(g) 652.2(1 dp), 653.18(2 dp) (h) 634.1(1 dp), 634.12(2 dp)
(i) 456.9 (1 dp), 456.88 (2 dp)

2. (a) 82.650 (b) 0.370 (c) 302.741
(d) 69.852 (e) 150.012 (f) 54.160

B 1. 5.126 km
2. Varies with the formed decimal
3. (a) 3.5 kg (2) 3.46 kg
4. Answers will vary from one learner to another.

Conversions of decimals to fractions

Apply zone

A 1. $\frac{4}{10} = \frac{2}{5}$ 2. $\frac{999}{10000} = \frac{191}{2000}$ 3. $\frac{22}{100} = \frac{11}{50}$
4. $\frac{117}{1000}$ 5. $\frac{75}{100} = \frac{3}{4}$ 6. $\frac{80}{10000} = \frac{1}{125}$

B 1. $\frac{76}{100} = \frac{19}{25}$ 2. $\frac{655}{1000} = \frac{131}{200}$

Conversion of fractions to decimals

Apply zone

A 1. 0.8 2. 0.35 3. 0.375
4. 0.24 5. 0.5 6. 0.3125

B 1. 0.25 2. 0.6
3. (a) $\frac{9}{10}$ (b) $\frac{1}{10}$ (c) (i) 0.9 (ii) 0.1

Conversion of percentages to decimals

Apply zone

A 1. (a) 36% (b) 45% (c) 62%
(d) 91% (e) 12% (f) 58%

2. (a) 0.26 (b) 0.35 (c) 0.4
(d) 0.09 (e) 0.95 (f) 0.81

B 1. 35% 2. 18% 3. (a) $\frac{3}{5}$ (b) 60%
4. 0.72 5. 0.45 6. (a) 0.15 (b) 30 000

Addition of decimals

Apply zone

A 1. 348.756 2. 97.7541 3. 494.975 4. 597.7311
5. 429.272 6. 98.3561

B 1. 38.2638 2. Varies with the decimals formed
3. 786.619 4. 759.9063 5. 38.9308

Subtraction of decimals

Apply zone

A 1. 71.2210 2. 82.24 3. 153.2593 4. 175.133

B 1. 80.28 km^2. 2. 3.003 3. 16.554
4. Answers will vary from one learner to another.

1.6 Inequalities (Workbook 6, pages 38 - 45)

Forming inequalities (1)

Apply zone

A 1. > 2. < 3. > 4. < 5. <

B Letters may vary.
1. $x < 150$ 2. $s < 484$ 3. $m > 300\,000$
4. $y < 80$ 5. $8 \times 216 > 3 \times 360$

Forming inequalities (2)

Apply zone

A 1. $x + 14 < 20$ 2. $3t + 44 > 1023$. $k + 2 < 52$
4. $4w + 32 < 194$ 5. $q + 32 > 43$

Forming inequalities (3)

Apply zone

A 1. $3w - 8 < 38$ 2. $m - 16 > 142$ 3. $7 - w < 89$
4. $m - 28 > 46$ 5. $30 - y < 9$ 6. $p - 7 > 280$

Forming inequalities (4)

Apply zone

A 1. $8z < 69$ 2. $24f > 100$ 3. $7y \times 93 > 243$ 4. $13w < 67$

B 1. $3p < 3\,780$ 2. $5d > 50\,000$ 3. $6y < 52$

Forming inequalities (5)

Apply zone

A 1. $\frac{m}{4} < 230$ 2. $\frac{2}{3}r < 56$ 3. $\frac{k}{18} < 250$ 4. $\frac{1}{2}z > 60$

Simplifying inequalities (1)

Apply zone

A 1. $5f < 13$ 2. $n > 14$ 3. $5p < 17$ 4. $12x > 25$

B Letters may vary.

1. $5w < 55$ or $w < 11$
2. $4q > 18$
3. $5b < 170$ or $b < 34$
4. $11q + 3 > 70$

Simplifying inequalities (2)

Apply zone

A 1. $7f > 63$ 2. $9h < 45$ 3. $14p > 104$ 4. $3y < 14$

B 1. $23h > 207$ 2. $9k < 81$ 3. $5t < 500$

Simplifying inequalities (3)

Apply zone

A
1. $m > 136$
2. $r < 115$
3. $p > 2016$
4. $k > 45$
5. $q < 343$
6. $y > 75$

B 1. $q > 198$ 2. $F < 4$

Solving inequalities

Apply zone

A a. $x > 4$ b. $w < 40$ c. $b < 6$ d. $p > 20$

B a. $x > 15$ b. $k > 500$ c. $b < 25$ d. $h > 36$

2 Measurements

Flashback zone

Quick-fire 1

1. 50 cm
2. 3 diameters
3. $A = \frac{1}{2} \times b \times h$
4. 0.250 litre or $\frac{1}{4}$ litre
5. 5 tonnes
6. 2 periods; a.m and p.m
7. 1330 hours
8. Sh 1 200
9. Value Added Tax; Consumer goods
10. 4 500 ml
11. 6 minutes
12. 1 000-$\frac{1}{2}$ kgs
13. 27 000 m
14. 30 cm
15. 225 cm^2

Quick-fire 2

1. 30 mm
2. Circumference is the perimeter of a circle, or the distance round a circle.
3. Circumference = ϖD
4. 3 000 g
5. 12 hours
6. -------?---(see wookbook)
7. 8:00 a.m.
8. Sh 500
9. VAT, Income tax (Answers may vary from one learner to another)
10. 125 cm^3
11. 90-⅓ litres
12. 6 hours 5 minutes
13. 5 000 cents
14. 300 seconds
15. 60 cm^3

2.1 Length (Workbook 6, pages 48 - 55)

Comparing millimetres and centimetres

Apply zone

A 1. 4.4 cm, 44 mm 2. 5.8 cm, 58 mm
3. 7.2 cm, 72 mm 4. 5.2 cm, 52 mm

B (a) Length 4.8 cm, width 4.8 cm (b) Length 7.7 cm , width 4.8 cm

Conversion of length

Apply zone

A 1. (a) 130 mm (b) 950 mm (c) 490 mm
(d) 85 mm (e) 154 mm (f) 1 152 mm

2. (a) 7 cm 1 mm (b) 19 cm 8 mm
(c) 46 cm 4 mm (d) 5 cm 9 mm

B 1. 114 mm 2. Length 35 mm, width 45 mm
3. 156 mm 4. 437 cm 6 mm
5. 45 cm 6. 6 cm 5 mm

Addition of length

Apply zone

A 1. 22 cm 3 mm 2. 143 cm 4 mm 3. 363 cm 5 mm
4. 7 cm 9 mm 5. 36 cm 8 mm 6. 66 cm 0 mm
7. 47 cm 5 mm

B 1. 381 cm 3 mm 2. 89 cm 0 mm

Subtraction of length

Apply zone

A 1. 9 cm 3 mm 2. 35 cm 9 mm 3. 138 cm 3 mm
4. 46 cm 9 mm 5. 11 cm 5 mm

B 1. 780 cm 6 mm 2. 52 cm 7 mm
3. Nyawira by 2 cm 5 mm

Multiplication of length

Apply zone

A 1. 34 cm 2 mm 2. 34 cm 5 mm 3. 1 297 cm 5 mm
4. 594 cm 4 mm 5. 408 cm 8 mm

B 1. 168 cm 0 mm 2. 33 cm 6 mm

Division of length

Apply zone

A 1. 1 cm 3 mm 2. 2 cm 2 mm 3. 2 cm 6 mm 4. 2 cm 2 mm

B 1. 45 2. 2 cm 3 mm 3. 3 cm 1 mm

Circumference and diameter

Apply zone

A 1. (a) Diameter = 28 mm, circumference = 88 mm
(b) Diameter = 14 mm, circumference = 44 mm
2. The answer is the same and is $\frac{22}{7}$.

B Answers will vary from one learner to another.

2.2 Area (Workbook 6, pages 55 - 60)

Area of triangles

Apply zone

A 1. 140 cm^2 2. 1 700 cm^2 3. 2 450 cm^2 4. 1 242 cm^2

B 1. 95 cm^2 2. 2 940 cm^2 3. 360 cm^2 4. 800 cm^2 5. 972 cm^2

Combined shapes

Apply zone

A 1. 546 cm^2 2. 248 cm^2 3. 750 cm^2
4. 1 640 cm^2 5. 733 cm^2 6. 900 cm^2

Estimating area of circles by counting squares

Apply zone

A a. 5 units b. 9 units c. 5 units d. 16 units

B 1. 26 units 2. 17 units

2.3 Capacity (Workbook 6, pages 60 - 63)

Conversion of litres to millilitres

Apply zone

A 1. 255 000 ml 2. 59 000 ml 3. 462 000 ml 4. 565 000 ml
5. 256 435 ml 6. 109 765 ml 7. 50 500 ml 8. 675 105 ml
9. 48 455 ml 10. 63 250 ml

B 1. 235 000 ml 2. 230 000 ml 3. 2 500 ml 4. 25 450 ml

Conversion of millitres to litres

Apply zone

A 1. 67 l 2. 90 l 3. 5 l 345 ml 4. 17l 5 ml
5. 20 l 05 ml 6. 74 l 45 ml

B 1. 5 l 2. 1 000l 3. 45 l 5 ml 4. 955 l 5 ml
5. 35 l

2.4 Mass (Workbook 6, pages 68 - 77)

Converting of tonnes to kilograms

Apply zone

A 1. 3 250 kg 2. 31 500 kg 3. 500 000 kg
4. 909 000 kg 5. 925 000 kg 6. 48 200 kg

B 1. 4 000 kg 2. 9 250 kg 3. 12 500 kg

Conversion of kilograms to tonnes

Apply zone

A 1. (a) 3 t (b) 15 t (c) 60 t
(d) $4\frac{1}{2}$t (e) $\frac{1}{2}$t (f) $6\frac{1}{4}$t
2. (a) 1 t 300 kg (b) 2 t 850 kg (c) 9 t 10 kg (d) 5 t 345 kg

B 1. 2 t 250 kg 2. 4 t 800 kg 3. 68 t 250 kg

Addition of mass

Apply zone

A 1. 20 t 880 kg 2. 53 t 140 kg 3. 54 t 19 kg 4. 130 t 200 kg

B 1. 3 t 50 kg 2. 8 t 210 kg 3. 15 t 100 kg

Subtraction of mass

Apply zone

A 1. 12 t 300 kg 2. 37 t 119 kg 3. 460 t 280 kg 4. 273 kg

B 1. 1 t 110 kg 2. 2 t 460 kg 3. 361 t 520 kg 4. 3 t 500 kg

Multiplication of mass

Apply zone

A 1. 24 t 675 kg 2. 165 t 672 kg 3. 375 t 450 kg
4. 2 762 t 100 kg 5. 6 871 t 410 kg 6. 21 016 t 302 kg

B 1. 30 t or 30 000 kg 2. 130 t 500 kg
3. 129 t 600 kg 4. 9 t 300 kg

Division of mass

Apply zone

A 1. 3 t 100 kg 2. 2 t 400 kg 3. 6 t 402 kg
4. 16 t 618 kg 5. 2 t 180 kg 6. 8 t 167 kg

B 1. 3 t 254 kg 2. 2 t 650 kg 3. 10 t 560 kg
4. 2 t 125 kg 5. 1 t 202 kg

2.5 Time (Workbook 6, pages 69 - 76)

Time in a.m and p.m

Apply zone

A Clocks faces will vary from one learner to another.

B 1. 2:35 p.m 2. 1:45 a.m 3. 11:28 a.m
4. (a) 9:44 p.m (b) 5:30 a.m 5. (a) 11:50 a.m (b) 1:00 p.m

Relating time in a.m. and p.m. to the 24 -hour clock system

Apply zone

1. 1130 hours 2. 2320 hours 3. 1940 hours 4. 2230 hours
5. a. Tuesday b. 1900 hours

Conversion of time from 12-hour clock system to 24-hour clock system

Apply zone

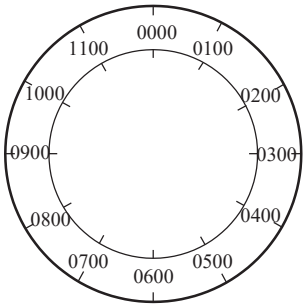
A 1. 0100 h 2. 0001 h 3. 0230 h 4. 0945 h
5. 1050 h 6. 1159 h 7. 0045 h 8. 2359 h 9. 1530 h

B 1. (a) 0800 h and 0840 h
2. (a) 12:25 a.m (b) 0025 h 3. (a) 6:30 a.m
(b) 0630 h 4. 1745 h 5. 1800 h

Conversion of time from 24-hour clock system to 12-hour clock system

Apply zone

A 1.



2. (a) 1:00 a.m (b) 3:00 a.m (c) 9:00 a.m (d) 1:01 p.m
(e) 12:01 a.m (f) 8:45 a.m (g) 11:59 a.m (h) 10:45 a.m

B 1. 7:00 p.m and 4:00 a.m
2. 5:15 a.m and 11:30 a.m
3. (a) 5:30 p.m (b) 11:20 a.m
4. (a) 4:15 p.m (b) 6:48 p.m
5. (a) 1515 h (b) 3:15 p.m
6. (a) 1545 h (b) 3:45 p.m (c) 12:15 a.m.
7. (a) 1140 h (b) 11:40 a.m

Travel timetables

Apply zone

1. (a) 0730 h (b) 1130 h (c) 1 h 50 min (d) 4 h 40 min (e) Yala
2. (a) 12:50 p.m (b) 2:50 p.m (c) 1 h 20 min (d) 7 h 45 min
   (e) (i) B (ii) 10min (f) E
3. (a) FY502 (b) 1100 h or 11:00 a.m (c) 2:10 p.m
   (d) 3 h 40 min (e) 1 h 40 min (f) BC 180

2.6 Money (Workbook 6, pages 76 – 80)

Preparing a budget

Apply zone

A 1. Budget may vary from one learner to another.
2. Answers may vary from one learner to another.
3. Needs should be prioritised over wants.

Profit

A 1.

Buying price	Selling price	Profit
Sh 5000	Sh 5 650	Sh 650
Sh 120 000	Sh 132 550	Sh 12 550
Sh 23 550	Sh 23 905	Sh 355
Sh 45 400	Sh 54 350	Sh 8 950
Sh 38 755	Sh 43 800	Sh 5 045
Sh 14 950	Sh 23 000	Sh 8 050
Sh 37 545	Sh 41 455	Sh 3 910

B 1. Sh 7 550 2. Sh 9 500 3. Sh 15 500 4. Sh 160 000 5. Sh 189 500

Loss

Buying price	Selling price	loss
Sh 9 500	Sh 8 650	Sh 850
Sh 10 050	Sh 9 050	Sh 1 000
Sh 38 500	Sh 25 670	Sh 12 830
Sh 54 000	Sh 49 500	Sh 4 500
Sh 324 650	Sh 288 000	Sh 36 650
Sh 24 600	Sh 21 750	Sh 2 850
Sh 7 650	Sh 6 800	Sh 850
Sh 10 000	Sh 9 950	Sh 50

B 1. sh 5 500 2. sh 5 500 3. sh 10 000 4. sh 99 000 5. sh 1 000

Tax

A (a) sh 480

(b) Because of adding value to the chillies by making the chillie sauce

(c) Value Added Tax

B Answers will vary from one learner to another.

Some goods include milk that makes yoghurt.

3 Geometry

Flashback zone

Quick-fire 1

1. Perpendicular
2. Protractor
3. 30°
4. 90°
5. 14
6. 5
7. 5
8. An angle between 90° and 180°
9. South
10. Intersection
11. The line segment where two faces of a solid meet
12. A solid that has a polygon for a base and whose other faces are triangles that share a common vertex (corner, point)
13. 360°
14. 90°
15. 360°

Quick-fire 2

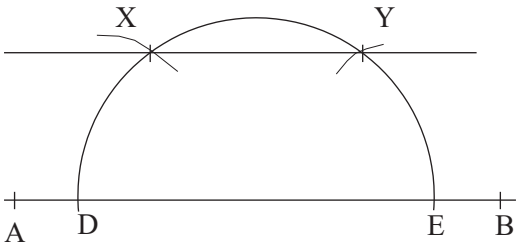
1. They are in the same plane that do not intersect.
2. A figure formed by two rays that have a common endpoint .
3. 180°
4. 180°
5. Cube, cuboid (Answers may vary from one learner to another)
6. 2 faces, 2 edges
7. 5 faces
8. An angle between 0° and 90°
9. Square, rectangle (Answers may vary from one learner to another)
10. A pair of compasses.
11. A solid that has two parallel congruent circular bases and a curved surface
12. A flat surface of a solid
13. Outer scale: 0°-180° clockwise; Inner scale: 0°-180° anticlockwise
14. 360°
15. Two right angles

3.1 Lines (Workbook 6, pages 83 - 87)

Constructing parallel lines

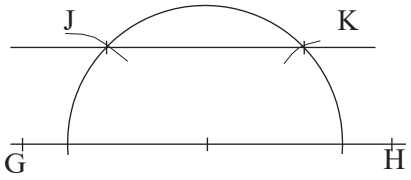
Apply zone

A



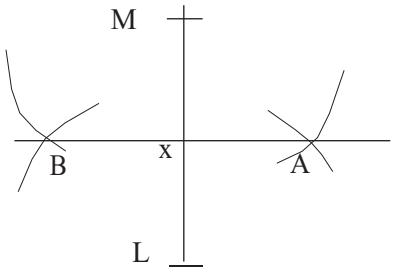
Line AB is parallel to line XY.

B



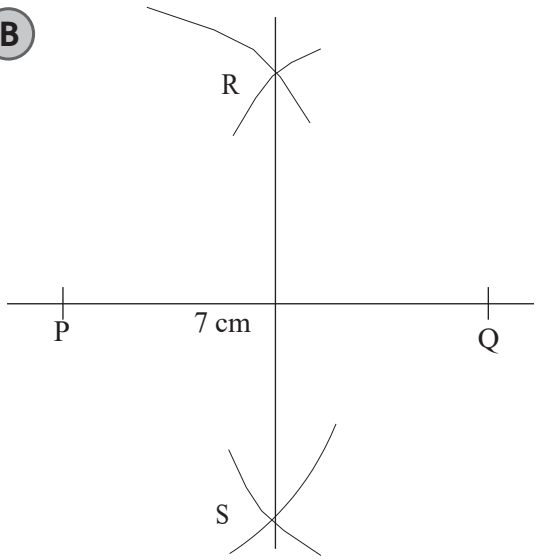
Bisecting lines

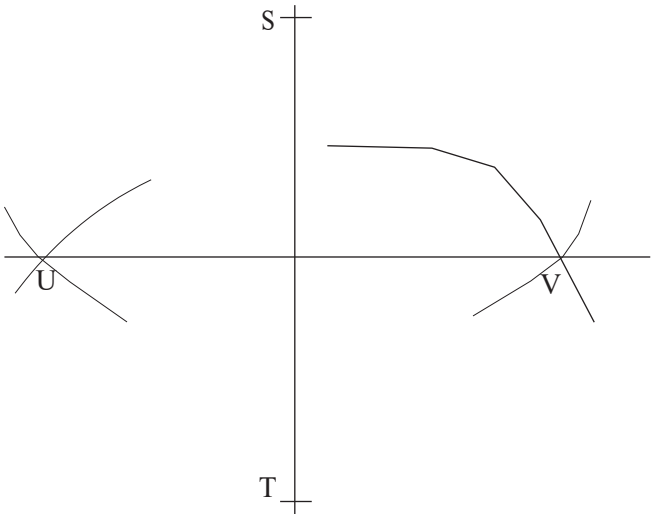
A



LX = XM = 4 cm

B

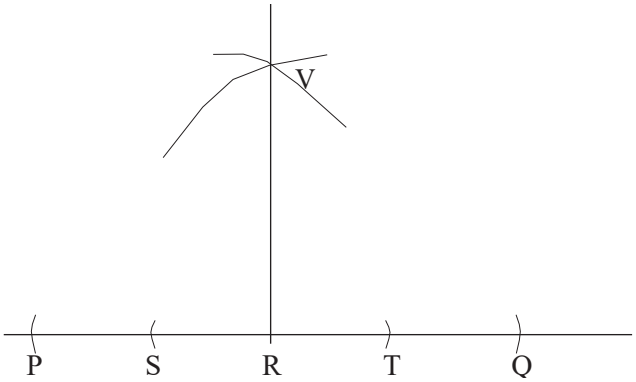




Constructing perpendicular lines

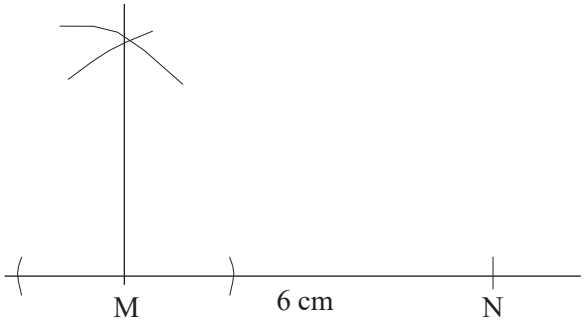
Apply zone

B



VRP = 90°, QRV = 90°, SRV = 90° and VRT = 90°
Lines PQ and RV are perpendicular. They meet at 90°.

B



3.2 Angles (Workbook 6, pages 88 - 96)

Angles on a straight line

Apply zone

A 1. p = 39°, d = 141° 2. a = 21°, b = 159°
3. x = 37°, y = 143° 4. e = 79°, f = 101°

B 1. a = 122°, b = 34°, c = 24° 2. e = 46°, f = 77°, g = 57°
3. h = 85°, i = 36°, k = 59° 4. x = 26°, y = 124°, z = 30°

Sum of angles in a straight line

Apply zone

1. 60° 2. 40° 3. 50° 4. 70°

Sum of angles in a triangle

Apply zone

1. a = 60°, b = 60°, c = 60° a + b + c = 180°
2. p = 45°, r = 90°, q = 45° p + q + r = 180°
3. x = 25°, y = 127°, z = 28° x + y + 2 = 180°
4. e = 35°, f = 48°, g = 97° e + f + g = 180°
5. j = 34°, k = 112°, l = 34° j + k + l = 180°
6. u = 90°, v = 51°, w = 39°
   u + v + w = 180°

Constructing different triangles and measuring their interior angles.

Apply zone

1. a. Equilateral b. 60°
2. Equilateral

3. a. Angle XYZ = 90°, Angle YXZ = 40° and Angle XYZ = 50°
   b. Right angled triangle
4. 7.8 cm
5. Length BC = 6 cm and angle ABC = 60°
6. Length XZ = 5.5 cm and angle XYZ = 50°

3.3 3 - D Objects (Workbook 6, pages 96 - 97)

Apply zone

Object	Faces	Vertices	Edges
Closed cube	6	8	12
Closed cuboid	6	8	12
Closed cylinder	3	-	2
Triangular pyramid	4	4	6
Square pyramid	5	5	8

4 Data handling

Flashback zone

Quick-fire 1

1. Facts and figures from which conclusions can be drawn.
2. 10
3. Pictures
4. A bar graph

Quick-fire 2

1. Frequency table, piling, a bar graph (Answers may vary from one learner to another)
2. 43
3. 25
4. Stroke

4.1 Bar graphs (Workbook 6, pages 98 - 105)

Collecting and representing data using tables

Apply zone

1.

Denomination	Tally	Number
Sh 5	𝍸 𝍸	10
Sh 10	𝍸 𝍸 II	12
Sh 20	𝍸 𝍸	8
Sh 40	III	3
Sh 50	𝍸 I	6

2.

Vehicle	Tally	Number
Toyota	𝍸 𝍸 𝍸	15
Mazda	𝍸 I	6
Nissan	𝍸 𝍸	10
Mercedes	III	3
Honda	𝍸	5

Representing data using pictorgraphs

Apply zone

1.

Favourite drink	No. of learners	Pictograph representation
Milk	20	○○○○○○○○○○
Yoghurt	10	○○○○○
Soda	3	○◡
Tea	10	○○○○○
Coffee	7	○○○◡

Key: Semicircle (◡) = 1 learner

2.

Type of tree	No. of trees	Pictograph representation
Blue gum	500	△△△△△
Moringa	100	△
Jacaranda	600	△△△△△△
Acacia	400	△△△△
African olive	300	△△△

Key: 1 triangle (△) = 100 trees

3.

Type of tree	No. of trees	Pictograph representation
Avocado	100	||||||||||
Mango	80	||||||||
Guava	90	|||||||||
Papaya	120	||||||||||||
Lemon	90	|||||||||
Apple	60	|||

Key: 1 stick (|) = 10 trees

4.

Type of vehicle	No. of vehicle	Pictograph representation
Matatu	150	○○○○○○○◗
Buses	20	○
Lorries	60	○○○
Cars	200	○○○○○○○○○○

Key: 1 circle (○) = 20 vehicles

Representing data through piling

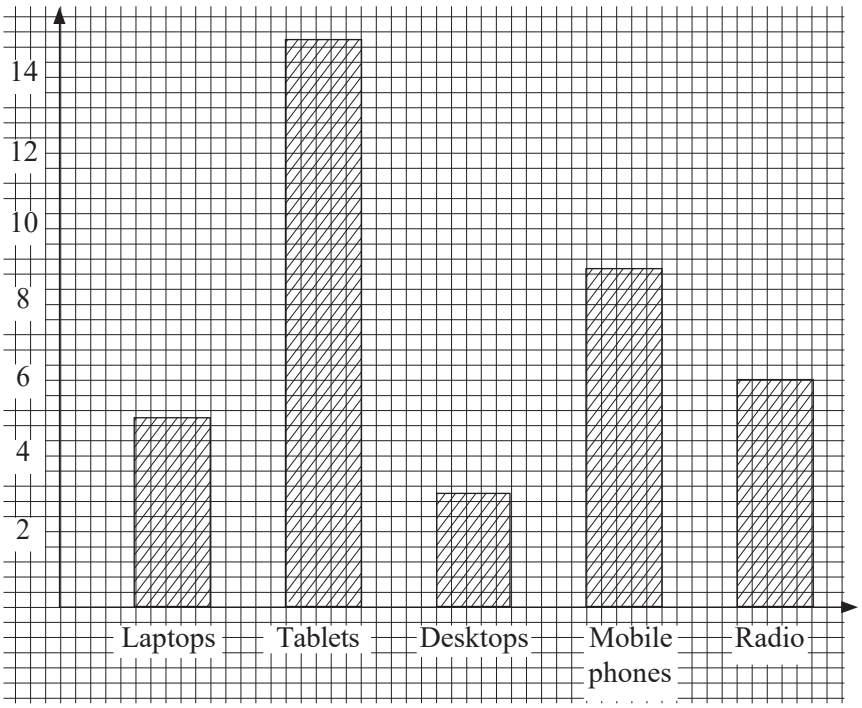
Apply zone

A 1. (a) 10 (b) 12 (c) 7 2. 29

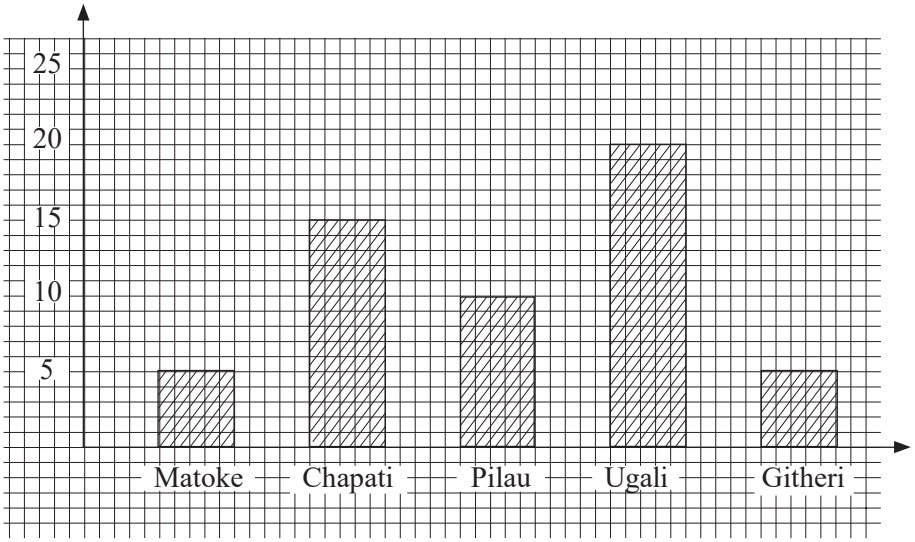
Representing data using bar graphs

Apply zone

A 1.



2.



B Answers may vary from one learner to another.

Interpreting information shown on bar graphs

Apply zone

A Bar graphs will vary from one learner to another.

B 1. (a) 10 (b) 5 (c) 5 (d) Black (e) 50

2. (a) 20 (b) 10 (c) 5 (d) 30 (e) 45

Summative Assessment Papers

Assessment Paper 1 (Workbook 6, pages 111 - 116)

1. C	2. A	3. B	4. C	5. A
6. D	7. C	8. C	9. D	10. C
11. A	12. C	13. C	14. A	15. D
16. D	17. A	18. B	19. A	20. D
21. A	22. D	23. D	24. D	25. B

Assessment Paper 2 (Workbook 6, pages 117 - 121)

1. C	2. A	3. D	4. B	5. B
6. D	7. A	8. B	9. B	10. D
11. B	12. C	13. D	14. B	15. B
16. B	17. D	18. A	19. D	20. C
21. C	22. B	23. C	24. C	25. A

Assessment Paper 3 (Workbook 6, pages 122 - 126)

1. A	2. C	3. C	4. D	5. D
6. B	7. A	8. C	9. B	10. C
11. D	12. B	13. C	14. C	15 A
16. A	17. C	18. D	19. C	20. D
21. B	22. D	23. B	24. C	25. B

Assessment Paper 4 (Workbook 6, pages 126 - 131)

1. D	2. B	3. A	4. C	5. C
6. B	7. A	8. A	9. D	10. C
11. B	12. B	13. D	14. A	15. A
16. A	17. A	18. C	19. B	20. A
21. A	22. B	23. B	24. A	25. D

Assessment Paper 5 (Workbook 6, pages 131 - 136)

1. B	2. C	3. A	4. D	5. C
6. D	7. A	8. D	9. C	10. C
11. A	12. C	13. C	14. D	15. A
16. C	17. D	18. B	19. C	20. B
21. A	22. D	23. A	24. C	25. D

Assessment Test 6 (Workbook 6, pages 136 - 140)

1. C	2. C	3. D	4. D	5. B
6. A	7. D	8. C	9. A	10. B
11. B	12. B	13. C	14. A	15. D
16. B	17. A	18. C	19. C	20. C
21. A	22. A	23. D	24. D	25. D