TGL

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YEAR 7

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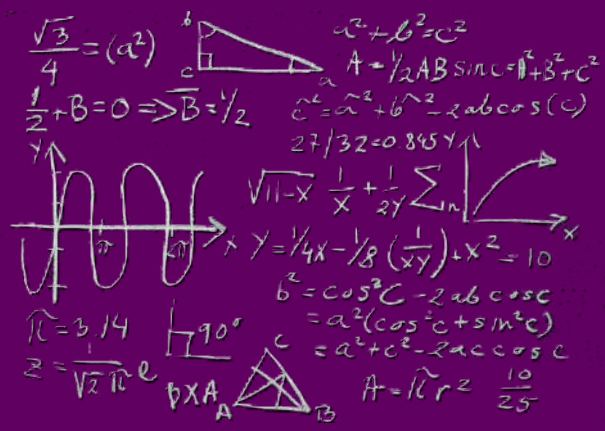

Work Book For Year 7

BOOK 2

M.Nat

Practice Makes Perfect

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Acknowledgements

First and foremost I would like to thank God who has given me the guidance and knowledge to make this series of book. My heartfelt thanks goes to my family for their tremendous support and encouragement throughout the making of this book.

I express my gratitude towards Gajanthini who have provided her valuable time to proof read and design this book . Last but not least I express my gratitude towards my students for their inspiration and progressive feedback which has only led me to improve every maths book of mine..

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Published by TGL Publishers, 101A Blyth Road, Hayes, UB3 1DB

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Year 7 Workbook 2

More than 500 questions included

Mr M. Nat

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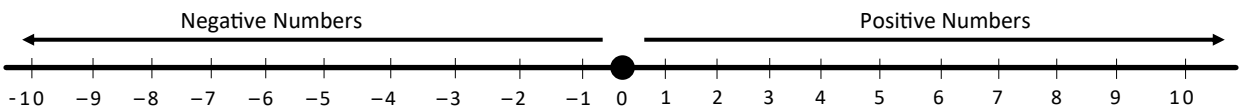
Directed Numbers

Chapter 1

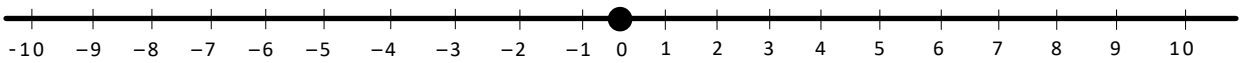
Using a Number line

Exercise 1A

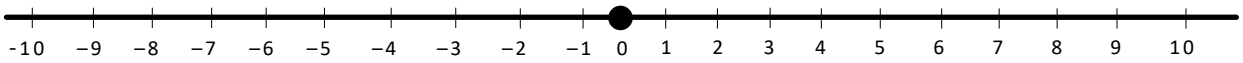


Q1 **Represent each of the following trips on the number line using a directed number.**

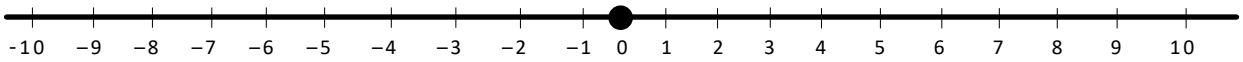
a) 0 to +8



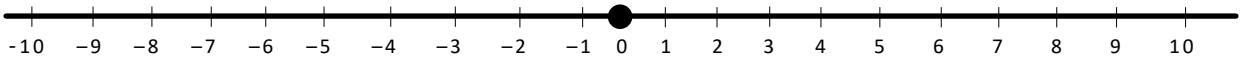
b) -8 to +4



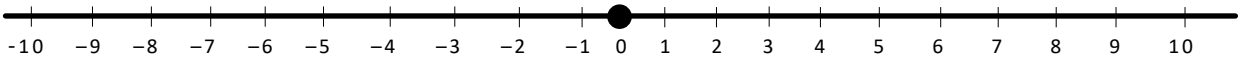
c) -1 to +7



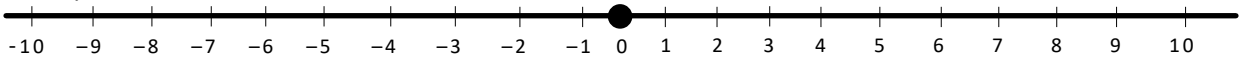
d) -5 to +10



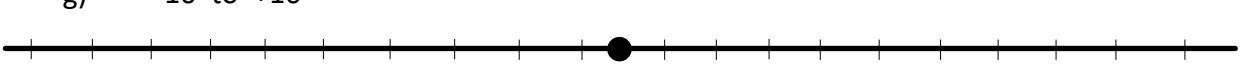
e) -3 to -6



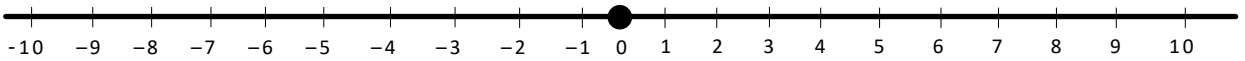
f) -6 to +10



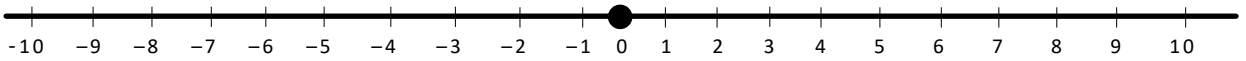
g) -10 to +10



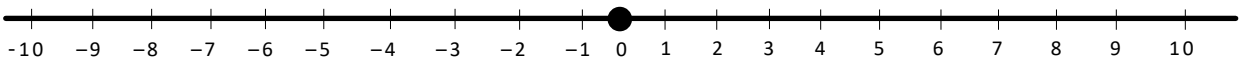
h) -7 to -10



i) -8 to -10



j) -1 to +9



Q2 **Which one is the smaller number?**

a) -10, -7 _____

b) -6, -5 _____

c) -7, +4 _____

d) -6, +6 _____

e) 0, -5 _____

f) +3, +4 _____

g) -8, -7 _____

h) -4, -7 _____

i) -10, -1 _____

j) -5, -3 _____

Q3 **Arrange in <u>descending</u> Order:**

a) -7, +4, -3, +2, -10, -5

_____

b) -5, -4, +2, -1, +3, +4

_____

c) -8, -10, -4, +1, -1, +2

_____

d) -10, +9, -9, -8, 7, -6, +4, -4

_____

e) -7, -6, -5, +5, -4, -1, +7, +8

_____

f) -8, -10, +1, -3, +2, -4, -5

_____

g) -16, -5, +1, -4, +4, +5, -6

_____

h) -17, -5, +16, +5, +12, -12, -13

_____

i) -19, -16, -18, +7, -4, +8, -10

_____

j) -8, +8, -4, +1, -3, -5, -6

_____

Q4 **Write > or < to make the following statements true:**

a) -5 _____ 6

b) -4 _____ -3

c) -5 _____ -8

d) -10 _____ -5

e) +8 _____ -8

f) -7 _____ -5

g) +7 _____ -4

h) -12 _____ -11

i) -13 _____ -12

j) -8 _____ +8

Exercise 1B

Addition and Subtraction of directed Numbers

Q1 **Work out:**

a) 4 - 6 _____

b) -4 - 2 _____

c) -8 + 6 _____

d) 8 - 13 _____

e) -2 - 2 _____

f) -9 + 9 _____

g) 5 - 11 _____

h) -9 + 3 _____

i) -9 +5 _____

j) -12 + 13 _____

k) 7 - 12 _____

l) 8 - 13 _____

Q2 **Work out:**

a) -7 + 4 _____

b) 6 - 12 _____

c) -4 - 4 _____

d) 9 - 20 _____

e) -5 + 8 _____

f) 10 - 2 _____

g) 5 -10 _____

h) -13 + 6 _____

i) -20 -10 _____

j) -12 - 6 _____

k) -13 - 1 _____

l) -13 + 9 _____

Q3 **Work out:**

a) 7 - ☐ = 3

b) -3 + ☐ = 13

c) 1 - ☐ = 7

d) ☐ - 5 = 20

e) 7 - ☐ = 6

f) -5 - ☐ = -12

g) -4 - ☐ = 20

h) -2 + ☐ = 0

i) -3 - ☐ = 15

j) -11 + ☐ = 23

k) -4 + ☐ = 6

l) -12 + ☐ = 22

Q4 **Work out:**

a) -7 - (-2) = _____

b) -7 - (-3) = _____

c) 8 - (-2) = _____

d) -8 + (-3) = _____

e) -3 + (-4) = _____

f) -9 - (+4) = _____

g) -11 - (-3) = _____

h) -12 - (-4) = _____

i) -7 + (-8) = _____

j) -1 - (-11) = _____

k) -3 - 4 - 5 = _____

l) -1 - 11 - (-10) = _____

Q5 **Find the temperature in the following problems:**

a) The Temperature is 8°c and falls by 2°c _____

b) The Temperature is - 9°c and falls by -3°c _____

c) The Temperature is 14°c and falls by 17°c _____

d) The Temperature is 17°c and falls by -3°c _____

e) The Temperature is - 10°c and falls by 7°c _____

Q6 **State in the following questions whether the temperature has risen or fallen and by how many degrees?**

a) It was 7°c and it is now - 3°c _____/_____°c

b) It was -4°c and it is now 7°c _____/_____°c

c) It was 10°c and it is now -4°c _____/_____°c

d) It was -10°c and it is now - 12°c _____/_____°c

e) It was –11°c and it is now –5°c _____/_____°c

Exercise 1C

Multiplication and Division of Directed Numbers

Q1 **Multiply the following:**

a) (+7) x (-5) = _____

b) (-7) x (+4) = _____

c) (-8) x (-3) = _____

d) (-9) x (-3) = _____

e) (-7) x (-2) = _____

f) (-4) x (-10) = _____

g) (-11) x (-12) = _____

h) (-13) x (-2) = _____

i) (-9) x (-9) = _____

j) (+21) x (+4) = _____

k) (-2) x (+8) = _____

l) (-10) x (+5) = _____

m) (-9) x (-8) = _____

n) (-12) x (-3) = _____

Q2 **Divide the following:**

a) $(-6) \div (-2) =$ _____

b) $(-8) \div (-4) =$ _____

c) $(-15) \div (-3) =$ _____

d) $(-21) \div (-3) =$ _____

e) $(-25) \div (-5) =$ _____

f) $(-62) \div (+2) =$ _____

g) $(-36) \div (-2) =$ _____

h) $(-28) \div (-2) =$ _____

i) $(-48) \div (-4) =$ _____

j) $(-40) \div (-4) =$ _____

k) $(-64) \div (+16) =$ _____

l) $(-84) \div (-4) =$ _____

m) $(-30) \div (-15) =$ _____

n) $(-35) \div (-7) =$ _____

Special Numbers, Factors and Multiples

Chapter 2

Exercise 2A

Square Numbers

Q1 **A Square number is obtained by multiplying a number by itself. Work Out:**

a) $3^2 =$ _____

b) $4^2 =$ _____

c) $7^2 =$ _____

d) $8^2 =$ _____

e) $9^2 =$ _____

f) $10^2 =$ _____

g) $11^2 =$ _____

h) $12^2 =$ _____

i) $3^2 + 4^2 =$ _____

j) $1^2 + 2^2 + 3^2 =$ _____

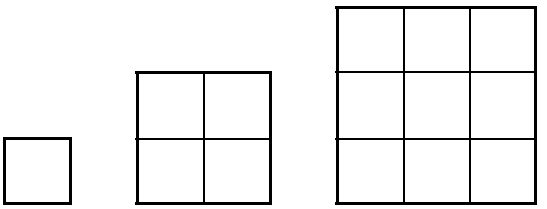
k) $9^2 + 10^2 =$ _____

Q2 **Expand the following patterns by three more lines:**

a)
$$1 = 1$$
$$1 + 3 = 4$$
$$1 + 3 + 5 = 9$$

b)
$$1 = 1$$
$$1 + 2 + 1 = 4$$
$$1 + 2 + 3 + 2 + 1 = 9$$

Q3



a) Extend this pattern by two more terms

b) What is the 8th Square Number? _____

c) Write down the pattern shown by the above squares? _____

Q4 **What number when multiplied by itself gives the following?**

a) 81 _____ c) 225 _____

b) 121 _____ d) 100 _____

Exercise 2B

Prime Numbers

A Prime number is divisible by just two different numbers: by itself and one. (one is not a prime number)

Q1 **Find the two numbers in each line which are prime:**

a) 16 13 15 11 _____ _____

b) 26 23 17 27 _____ _____

c) 51 53 57 58 _____ _____

d) 101 105 100 131 _____ _____

e) 7 75 83 95 _____ _____

Q2 **Write down two prime numbers which add up to another prime number.**

Give three examples.

_____

_____

_____

Q3 **Use your calculator to find which of the following are prime numbers?**

a) 296 _____

b) 396 _____

c) 407 _____

d) 1002 _____

e) 1009 _____

f) 333 _____

g) 335 _____

h) 708 _____

i) 231 _____

j) 331 _____

Q4 **How many prime numbers are even?**

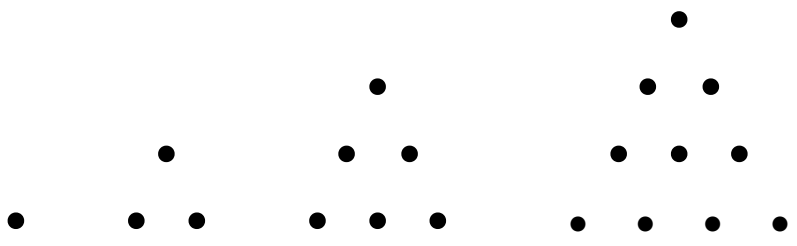
_____

Q5 **Find pairs of prime numbers with a difference of 4?**

_____

Exercise 2C

Triangular Numbers



1 3 6 10

Q1 **Extend the following pattern by 5 more lines?**

$$1 = 1$$
$$1 + 2 = 3$$
$$1 + 2 + 3 = 6$$

Q2 **Answer the following:**

a) List the first 8 triangular numbers?

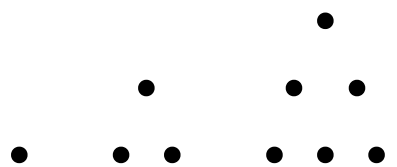
b) Add the first two triangular numbers. What kind of number do you get?

c) Add any two consecutive triangular numbers. What kind of number do you get?

Q3 **Answer the following:**

a) What is the 8th Triangular number?

b) Extend the pattern by two more terms :



c) Write the numbers shown by the above triangles

d) Why are these called triangular numbers?

Q4 **Which numbers are triangular between 10 and 50?**

_____

Exercise 2D

Factors

Q1 **Write down one example of a pair of factors which can be multiplied together to give each of the stated numbers. Do not use 1 as a factor.**

a) 18 _____

b) 32 _____

c) 50 _____

d) 65 _____

e) 44 _____

f) 55 _____

g) 84 _____

h) 36 _____

i) 30 _____

j) 92 _____

Q2 **Prime factor (Prime factor is a factor that is a prime number)**

a) 78 _____

b) 168 _____

c) 200 _____

d) 64 _____

e) 384 _____

Q3 **Find the factors of the following numbers?**

a) 18 _____

b) 300 _____

c) 25 _____

d) 72 _____

e) 400 _____

f) 256 _____

g) 225 _____

h) 108 _____

i) 92 _____

j) 84 _____

Q4 **Find the value of the missing factor?**

a) 7 x _____ = 84

b) 3 x _____ = 39

c) 4 x _____ = 64

d) 9 x _____ = 108

e) 11 x _____ = 121

f) 11 x _____ = 132

g) 2 x _____ = 48

h) 7 x _____ = 63

i) 10 x _____ = 120

j) 5 x _____ = 125

Exercise 2E

Highest Common Factor

Q1 **Find the factors for each pair of numbers and circle the common factors?**

a) 12 _____ b) 15 _____

24 _____ 25 _____

Q2 **Find the factors for each set of numbers and circle the common factors?**

a) 8 _____ b) 10 _____

10 _____ 15 _____

12 _____ 25 _____

Q3 **Answer the following:**

a) List all the factors of 16?

_____

b) List all the factors of 24?

_____

c) List the common factors of 16 and 24

_____

d) What is the highest common factor (HCF) of 16 and 24?

_____

Q4 **Find the highest common factor (HCF) of the following?**

a) 16 and 30

_____
_____
_____

b) 24 and 84

_____
_____
_____

c) 5, 15 and 35

_____
_____
_____

d) 16, 24 and 36

_____
_____
_____

Exercise 2F

Multiples

Q1 **Give the first three multiples for each of the following?**

a) 6 _____

b) 25 _____

c) 16 _____

d) 3 _____

e) 11 _____

f) 10 _____

g) 15 _____

h) 20 _____

i) 12 _____

j) 24 _____

Q2 **Answer the following:**

a) List the first eight multiples of 4?

_____

b) List the first eight multiples of 3?

_____

c) What are the common multiples of 3 and 4?

_____

d) What is the lowest common multiple (LCM)?

_____

Q3 **Answer the following:**

a) Write all the multiples of 5 between 5 and 60

_____

b) List all the multiples of 8 between 10 and 80?

_____

c) List all the multiples of 6 up to and including 78?

Q4 **Find the 'odd one out' (The number which is not a multiple of the number given)**

a) Multiples of 7: 49, 77, 18, 91, 105 _____

b) Multiples of 10: 5, 10, 20, 30, 40 _____

c) Multiples of 3: 9, 18, 27, 36, 8 _____

d) Multiples of 4: 2, 16, 24, 32, 48 _____

e) Multiples of 2: 4, 8, 12, 16, 1 _____

Q5 **Find which numbers, out of the following sets are multiples of?**

a) 15, 25, 35, 45, 55 _____

b) 9, 27, 36, 42 _____

c) 22, 33, 44, 55, 66 _____

d) 16, 24, 36, 72 _____

e) 8, 16, 24, 36 _____

Exercise 2G

Lowest Common Multiple

Q1 **Answer the following:**

a) List the first eight multiples of 4

_____

b) List the first eight multiples of 6

_____

c) List the common multiples of 4 & 6

_____

d) What is the lowest common multiple (LCM) of 4 and 6? _____

Q2 **Answer the following:**

a) Write down the first five multiples of 2

_____

b) Write down the first five multiples of 5

_____

c) Write down the LCM of 2 and 5 _____

Q3 **List the six multiples for each set of numbers, circle the common multiples and find the LCM?**

a) 15 and 20 LCM : _____

_____

_____

b) 10 and 40 LCM : _____

_____

_____

c) 6,12 and 18

_____

_____

_____

d) 4, 8, and 24 LCM : _____

_____

_____

Exercise 2H

Index Notations, Square Roots and Cube

Q1 **Write each of the following in expanded form:**

a) 2^4 _____

b) 8^4 _____

c) 3^5 _____

d) 10^5 _____

e) 4^7 _____

f) 7^3 _____

Q2 **Write each of the following in index form**

a) 2 x 2 x 2 _____

b) 7 x 7 x 7 _____

c) 11 x 11 x 11 x 11 x 11 x 11 _____

d) 8 x 8 x 8 x 8 x 8 x 8 _____

e) 9 x 9 x 9 x 9 x 9 x 9 x 9 _____

Q3 **Copy the following and fill in the spaces**

a) 5^2 = 25 $\sqrt{25}$ = ☐ b) 8^2 = 64 $\sqrt{\ }$ = 8

c) 3^2 = ☐ $\sqrt{\ }$ = 3 d) 11^2 = 121 $\sqrt{121}$ = ☐

e) 3.3^2 = 10.89 $\sqrt{\ }$ = 3.3 f) 12^2 = ☐ $\sqrt{\ }$ = 12

Q4 **The odd numbers can be added in groups to give sequence.**

$1 = 1 = 1^3$

$3 + 5 = 8 = 2^3$

$7 + 9 + 11 = 27 = 3^3$

Write down the next three rows of the sequence to see if the sum of each row always gives a cube number?

_____

_____

_____

Q5 **Evaluate the following:**

a) $\sqrt[3]{216}$ = _____ b) $\left(\sqrt[3]{64}\right)^3$ = _____

c) $\sqrt[3]{1000}$ = _____ d) $\sqrt[3]{343}$ = _____

Decimals

Chapter 3

Exercise 3a

Place value

Q1 **Write the following as decimal numbers:**

a) Eight - Tenths _____

b) Seven - Hundredths _____

c) Seven and two - Hundredths _____

d) Two Hundred and Sixteen and six hundredths _____

e) Five hundred and Twenty and Seven Hundredths _____

Q2 **State the value of the underlined digits in decimal form?**

a) 1.8<u>5</u><u>2</u><u>7</u> _____ _____

b) 20.0<u>2</u><u>4</u><u>5</u> _____ _____

c) 4.00<u>8</u><u>8</u><u>7</u> _____ _____

d) 0.<u>8</u><u>7</u><u>6</u>2 _____ _____

e) 0.0<u>9</u><u>4</u>3 _____ _____

f) 0.<u>5</u>77<u>3</u> _____ _____

g) 12.7<u>2</u><u>8</u><u>5</u> _____ _____

h) 9.<u>2</u><u>3</u>85 _____ _____

i) 723.<u>1</u><u>8</u><u>4</u>7 _____ _____

j) 0.73<u>8</u><u>5</u> _____ _____

Q3 **Write these numbers in ascending order**

a) 6.553, 4.621, 5.745, 7.552

_____

b) 1.20, 1.11, 11.35, 11.1, 1.15

_____

c) 0.54, 0.65, 0.25, 1.72, 0.75

_____

d) 0.892, 0.792, 1.23, 0.79

_____

e) 4.32, 5.02, 5.56, 4.47

_____

f) 23.331, 23.132, 23.321

_____

g) 0.0998, 0.008, 0.073

_____

h) 6.485, 6.584, 5.454, 0.753

_____

i) 9.454, 8.452, 7.323, 6.543

_____

Q4 **Write these numbers in descending order?**

a) 0.892, 0.792, 1.23, 0.79

_____

b) 4.32, 5.02, 5.56, 4.47

_____

c) 0.0998, 0.008, 0.076

_____

d) 6.485, 6.584, 5.454, 0.753

_____

e) 10.005, 10.345, 9.545, 7.113

_____

Exercise 3b

Fractions to Decimals

Q1 **Write the following as decimals:**

a) $\frac{11}{100}$ _____ b) $\frac{8}{10}$ _____ c) $\frac{7}{100}$ _____

d) $\frac{752}{1000}$ _____ e) $\frac{12}{100}$ _____ f) $\frac{707}{1000}$ _____

g) $\frac{455}{100}$ _____ h) $\frac{1767}{1000}$ _____ i) $\frac{765}{1000}$ _____

Q2 **Change to Decimals**

a) $7 + \frac{8}{100}$ _____ f) $48 + \frac{7}{100}$ _____

b) $3 + \frac{4}{10}$ _____ g) $79 + \frac{1}{100}$ _____

c) $1 + \frac{4}{10}$ _____ h) $15 + \frac{1}{10}$ _____

d) $9 + \frac{5}{100}$ _____ i) $129 + \frac{7}{100}$ _____

e) $11 + \frac{1}{1000}$ _____ j) $46 + \frac{3}{100}$ _____

Q3 **Express as Decimals**

a) $\frac{1}{4}$ _____ d) $\frac{1}{16}$ _____ g) $4\frac{9}{20}$ _____

b) $\frac{1}{5}$ _____ e) $10\frac{2}{5}$ _____ h) $6\frac{1}{25}$ _____

c) $\frac{1}{8}$ _____ f) $4\frac{2}{5}$ _____ i) $7\frac{1}{4}$ _____

Exercise 3c

Decimals to Fractions

Q1 **Change decimals to fractions**

a) 0.8 _____ f) 0.13 _____

b) 0.29 _____ g) 0.125 _____

c) 0.21 _____ h) 0.812 _____

d) 0.313 _____ i) 0.003 _____

e) 0.5 _____ j) 0.008 _____

Q2 **Change the following decimals to mixed numbers in the simplest form**

a) 1.2 _____ f) 8.01 _____

b) 1.3 _____ g) 26.95 _____

c) 9.5 _____ h) 19.25 _____

d) 8.015 _____ i) 17.92 _____

e) 48.2 _____ j) 20.5 _____

Q3 **Convert the following decimals to fractions expressed in their lowest terms**

a) 0.03 _____ k) 0.25 _____

b) 0.75 _____ l) 5.8 _____

c) 0.1 _____ m) 3.45 _____

d) 0.96 _____ n) 0.56 _____

e) 0.98 _____ o) 2.52 _____

f) 0.44 _____ p) 0.955 _____

g) 3.6875 _____ q) 0.02 _____

h) 0.07 _____ r) 0.144 _____

i) 0.735 _____ s) 0.18 _____

j) 0.24 _____ t) 0.99 _____

Q1 **Addition and Subtraction of decimals - Add the Following:**

a) 4 + 5.3 _____

b) 2 + 6.3 _____

c) 2.8 + 2.2 _____

d) 1.8 + 1.2 _____

e) 1.7 + 2.3 _____

f) 1.5 + 2.5 _____

g) 1.4 + 2.6 _____

h) 7.8 + 1.2 _____

i) 6.9 + 1.1 _____

j) 7.9 + 2.1 _____

k) 0.25 + 5 _____

l) 0.45 + 7 _____

m) 0.25 + 0.25 _____

n) 1.25 + 0.25 _____

o) 0.75 + 0.25 _____

Q2 **Work out the following:**

a) 1.25 - 0.25 _____

b) 7 - 0.25 _____

c) 1.75 - 1.25 _____

d) 6 - 0.25 _____

e) 1.8 - 1.2 _____

f) 7.9 - 2.1 _____

g) 2.6 - 1.4 _____

h) 6.9 - 1.1 _____

i) 5.3 - 4 _____

j) 6.7 - 1.6 _____

k) 7.9 - 1.2 _____

l) 7.8 - 1.3 _____

m) 10.1 - 1.1 _____

n) 12.5 - 1.5 _____

o) 0.75 - 0.25 _____

Q3 **Work out the following:**

a) 68.53 + 24.52

b) 78.62 − 58.42

c) 1685.00 − 25.02

d) 95.45 + 45.65

e) 153.25 + 47.75

f) 153.25 − 47.75

g) 68.53 − 24.52

h) 918.25 − 89.15

i) 728.63 − 129.69

j) 79.67 + 49.27

k) 958.56 + 728.16

l) 729.46 − 128.15

m) 129.79 + 128.69

n) 828.53 − 129.49

o) 1963.28 + 1868.38

Q4 **Work out the following:**

a) 78.28 + 28.15 + 18.45

b) 29.32 + 31.33 + 48.25

c) 45.75 + 73.25 + 94.78

d) 173.28 + 113.45 + 103.56

e) 275.28 + 215.78 + 343.92

f) 785.93 + 796.43 + 295.13

g) 39.39 + 45.24 + 75.25

h) 48.58 + 38.28 + 29.59

i) 68.59 + 59.49 + 29.59

j) 7983.25 + 1953.37 + 7250.25

k) 750.25 + 355.35 + 325.25

l) 252.25 + 353.75 + 428.25

m) 158.79 + 279.89 + 369.29

n) 101.56 + 111.25 + 211.75

o) 505.73 + 403.83 + 713.23

Q1 **Multiply the following:**

a) 0.3 x 5 _____

b) 0.5 x 8 _____

c) 0.8 x 0.4 _____

d) 0.9 x 5 _____

e) 1.2 x 5 _____

f) 1.6 x 7 _____

g) 1.8 x 12 _____

h) 0.7 x 1.7 _____

i) 1.6 x 8 _____

j) 0.15 x 3 _____

k) 0.25 x 6 _____

l) 0.45 x 5 _____

m) 1.25 x 4 _____

n) 1.45 x 6 _____

o) 0.8 x 4 _____

p) 0.9 x 7 _____

Q2 **Multiply the following:**

a) 1.8 x 10 _____

b) 2.28 x 100 _____

c) 79.6 x 10 _____

d) 74.5 x 100 _____

e) 4.56 x 100 _____

f) 4.56 x 10 _____

g) 7.21 x 10 _____

h) 793 x 100 _____

i) 47.9 x 100 _____

j) 44.5 x 10 _____

k) 72.9 x 100 _____

l) 95.4 x 10 _____

m) 47.8 x 10 _____

n) 90.5 x 100 _____

o) 102 x 100 _____

Q3 **Multiply the following:**

a) 7.75 x 1000 _____

b) 8.25 x 100 _____

c) 77.56 x 100 _____

d) 5.23 x 1000 _____

e) 92.43 x 1000 _____

f) 142.53 x 100 _____

g) 78.50 x 100 _____

h) 145.20 x 1000 _____

i) 1.78 x 1000 _____

j) 1.98 x 100 _____

k) 7.54 x 100 _____

l) 9.45 x 1000 _____

m) 72.56 x 1000 _____

n) 8.76 x 100 _____

o) 116.48 x 100 _____

Q4 **Multiply the following. Do your workings in your Exercise Book.**

a) 2.30 x 2.8 _____
b) 4.80 x 5.2 _____
c) 2.40 x 2.7 _____
d) 6.20 x 1.7 _____
e) 7.40 x 2.8 _____
f) 7.20 x 4.4 _____
g) 9.30 x 8.4 _____
h) 7.80 x 3.5 _____
i) 6.80 x 1.8 _____
j) 4.80 x 2.8 _____
k) 2.70 x 3.7 _____
l) 22.00 x 1.8 _____
m) 32.00 x 1.6 _____
n) 72.00 x 1.4 _____
o) 4.40 x 5.4 _____

Exercise 3f

Division

Q1 **Work out the Following decimals?**

a) 4.80 ÷ 2 _____
b) 9.60 ÷ 3 _____
c) 7.40 ÷ 2 _____
d) 12.40 ÷ 2 _____
e) 12.60 ÷ 3 _____
f) 7.50 ÷ 5 _____
g) 10.80 ÷ 12 _____
h) 9.20 ÷ 4 _____
i) 64.20 ÷ 2 _____
j) 16.40 ÷ 4 _____
k) 100.50 ÷ 5 _____
l) 4.50 ÷ 9 _____
m) 9.30 ÷ 3 _____
n) 10.12 ÷ 2 _____
o) 16.48 ÷ 4 _____

Q2 **Work out the Following?**

a) 86.00 ÷ 10 _____
b) 86.00 ÷ 100 _____
c) 86.00 ÷ 1000 _____
d) 8.62 ÷ 10 _____
e) 8.62 ÷ 1000 _____
f) 96.50 ÷ 100 _____
g) 125.30 ÷ 100 _____
h) 7.00 ÷ 10 _____
i) 8.50 ÷ 10 _____
j) 91.50 ÷ 100 _____
k) 92.00 ÷ 100 _____
l) 7.50 ÷ 100 _____
m) 7615.00 ÷ 1000 _____
n) 8628.00 ÷ 1000 _____
o) 9428.00 ÷ 1000 _____

Q3 **Work out the following in your exercise book and write the answers in the space given here. Answers with remainder**

a) 86.50 ÷ 21 _____
b) 712.00 ÷ 5.5 _____
c) 48.00 ÷ 1.5 _____
d) 98.50 ÷ 15 _____
e) 72.00 ÷ 1.8 _____
f) 86.00 ÷ 2.5 _____

Exercise 3g

Comparing Decimals

Q1 **Which is greater?**

a) 0 . 7 or 0 . 28 _____

b) 0 . 448 or 0 . 34 _____

c) 0 . 785 or 0 . 845 _____

d) 0 . 928 or 0 . 918 _____

e) 0 . 335 or 0 . 329 _____

f) 6 . 3 or 6 . 1 _____

g) 7 . 55 or 7 . 51 _____

Q2 **Which is smaller?**

a) 0 . 1 or 0 . 01 _____

b) 0 . 8 or 0 . 888 _____

c) 7 . 4 or 6 . 29 _____

d) 0 . 76 or 0 . 9 _____

e) 5 . 58 or 4 . 48 _____

f) 0 . 90 or 0 . 1 _____

g) 0 . 785 or 0 . 708 _____

Q3 **Arrange the following numbers in ascending order. (smallest to largest)**

a) 0.73 , 0.073 , 0.8 , 0.709 , 0.7
_____ , _____ , _____ , _____ , _____

b) 1.304 , 1.04 , 1.405 , 1.306 , 1.3
_____ , _____ , _____ , _____ , _____

c) 34.5 , 0.34 , 2.35 , 0.035 , 0.4
_____ , _____ , _____ , _____ , _____

d) 72.5 , 0.073 , 0.725 , 0.007 , 7.25
_____ , _____ , _____ , _____ , _____

e) 8.09 , 0.809 , 0.8 , 0.008 , 0.89
_____ , _____ , _____ , _____ , _____

f) 6.05 , 605 , 60.56 , 605.6 , 0.606
_____ , _____ , _____ , _____ , _____

g) 0.821 , 0.008 , 0.082 , 8.21 , 82.1
_____ , _____ , _____ , _____ , _____

Q4 **Arrange the following numbers in descending order. (largest to smallest)**

a) 7.023 , 7.872 , 6.892 , 5.493 , 5.672

_____ , _____ , _____ , _____ , _____

b) 7.063 , 70.63 , 706.3 , 0.706 , 0.071

_____ , _____ , _____ , _____ , _____

c) 6.562 , 65.62 , 656.2 , 0.656 , 0.066

_____ , _____ , _____ , _____ , _____

d) 4.564 , 0.456 , 0.046 , 456.4 , 0.005

_____ , _____ , _____ , _____ , _____

e) 9.762 , 96.62 , 97.62 , 976.2 , 0.976

_____ , _____ , _____ , _____ , _____

f) 10.45 , 10.55 , 104.5 , 10.05 , 105.5

_____ , _____ , _____ , _____ , _____

g) 0.763 , 76.23 , 762.3 , 0.762 75.62

_____ , _____ , _____ , _____ , _____

Q5 **True or false**

a) 0.8 > 0.2 _____

b) 0.01 > 0.1 _____

c) 0.75 < 0.5 _____

d) 0.7 < 0.35

e) 0.8 > 0.79 _____

f) 0.0015 > 0.02 _____

g) 0.35 < 0.6 _____

Q6 **Complete the following using the signs <, =, or >**

a) 0.85 ☐ 0.81

b) 7.5 ☐ 7.5

c) 0.35 ☐ 0.65

d) 100.1 ☐ 100.2

e) 0.75 ☐ 0.7

f) 0.95 ☐ 0.095

g) 0.001 ☐ 0.01

Exercise 3h

Recurring and Terminating

Q1 **Which of the following are recurring and which are terminating decimals.**

recurring - R

terminating - T

a) $0.\dot{3}8$ _____ b) 0.5 _____

c) $0.3\dot{8}\dot{3}8..$ _____ d) 0.375 _____

e) $0.\dot{4}8\dot{4}8$ _____ f) $0.\dot{5}4\dot{5}\dot{5}$ _____

g) 0.8 _____ h) 0.125 _____

i) $0.\dot{1}0\dot{1}$ _____

Q2 **Write the following recurring decimals in the shorter way.**

a) 0.7777….. _____ b) 0.3838…. _____

c) 0.8888…. _____ d) 0.101101… _____

e) 0.3737…. _____ f) 0.6666…. _____

g) 1.3434….. _____ h) 10.0101…. _____

i) 0.7878…. _____ j) 0.981981.. _____

Q3 **Write the following into decimals and mentioned as recurring or terminating**

a) $\frac{1}{2}$ _____ b) $\frac{2}{3}$ _____

c) $\frac{1}{3}$ _____ d) $\frac{1}{8}$ _____

e) $\frac{6}{7}$ _____ f) $\frac{9}{8}$ _____

g) $\frac{5}{3}$ _____ h) $\frac{7}{8}$ _____

i) $\frac{8}{9}$ _____ j) $\frac{3}{8}$ _____

Q1 **Round each of these for 1 decimal place**

a)	0.7231		b)	4.854		c)	3.4346	
d)	10.554		e)	7.358		f)	0.8531	
g)	8.4628		h)	0.9432		i)	9.435	
j)	0.5568		k)	8.5321		l)	7.5645	
m)	0.9543		n)	1.1621		o)	0.8125	
p)	2.3867		q)	5.6891		r)	74.1802	
s)	3.1553		t)	4.0853				

Q2 **Round each of these for 2 decimal place**

a)	0.7231		b)	4.854		c)	3.4346	
d)	10.554		e)	7.358		f)	0.8531	
g)	8.4628		h)	0.9432		i)	9.435	
j)	0.5568		k)	8.5321		l)	7.5645	
m)	0.9543		n)	1.1621		o)	0.8125	
p)	2.3867		q)	5.6891		r)	74.1802	
s)	3.1553		t)	4.0853				

Q3 **Round each of these for 3 decimal place**

a)	0.7231		b)	4.854		c)	3.4346	
d)	10.554		e)	7.358		f)	0.8531	
g)	8.4628		h)	0.9432		i)	9.435	
j)	0.5568		k)	8.5321		l)	7.5645	
m)	0.9543		n)	1.1621		o)	0.8125	
p)	2.3867		q)	5.6891		r)	74.1802	
s)	3.1553		t)	4.0853				

Q4 **Write the following decimals to the nearest tenth.**

a)	30.536		b)	20.452		c)	10.162	
d)	44.432		e)	11.17		f)	12.56	
g)	42.1612		h)	47.363		i)	44.362	
j)	45.3456		k)	75.456		l)	76.465	
m)	100.352		n)	100.732		o)	49.556	
p)	32.623		q)	15.254		r)	16.362	
s)	21.363		t)	31.575				

Q5 **Write the following decimals to the nearest hundredth.**

a)	30.536		b)	20.452		c)	10.162	
d)	44.432		e)	11.17		f)	12.56	
g)	42.1612		h)	47.363		i)	44.362	
j)	45.3456		k)	75.456		l)	76.465	
m)	100.352		n)	100.732		o)	49.556	
p)	32.623		q)	15.254		r)	16.362	
s)	21.363		t)	31.575				

Q6 **Write the following decimals to the nearest thousandth.**

a)	30.5367		b)	20.4521		c)	10.1625	
d)	44.4324		e)	11.1735		f)	12.5678	
g)	42.1612		h)	47.3636		i)	44.3621	
j)	45.3456		k)	75.4565		l)	76.4653	
m)	100.3527		n)	100.7328		o)	49.5567	
p)	32.6236		q)	15.2547		r)	16.3628	
s)	21.3637		t)	31.5756				

Area and perimeter

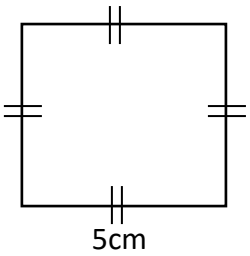
Chapter 4

Exercise 4a

Square

Q1 **Find the area & perimeter of the following squares**

a)

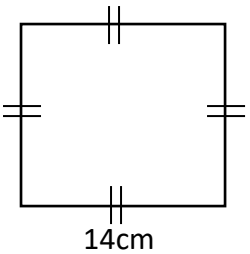


Area _____

Perimeter:

_____

b)

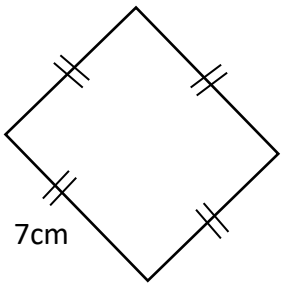


Area _____

Perimeter:

_____

c)

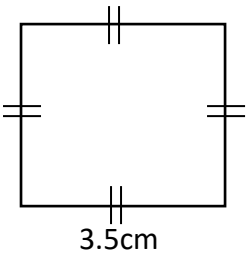


Area _____

Perimeter:

_____

d)

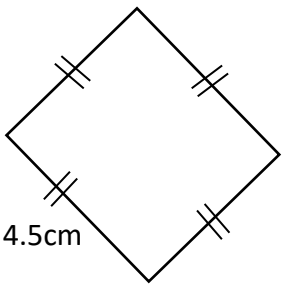


Area _____

Perimeter:

_____

e)



Area _____

Perimeter:

_____

Q2 **Complete the following table.**

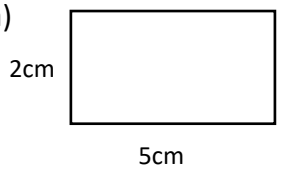
	Length of one side	Area	Perimeter
a		$9cm^2$	
b	5cm		
c			24cm
d			36cm
e		$64cm^2$	
f	11cm		
g	2cm		
h		$144cm^2$	
i		$225cm^2$	
j			52cm

Exercise 4b

Rectangle

Q1 **Find the area & perimeter of the following rectangles.**

a)

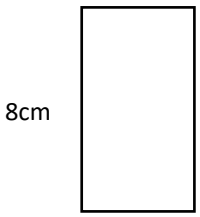


Area _____

Perimeter:

_____

b)

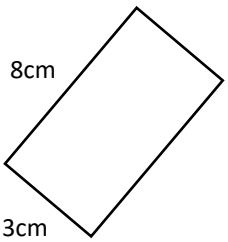


Area _____

Perimeter:

_____

c)

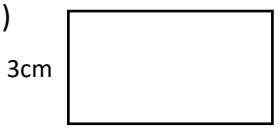


Area _____

Perimeter:

_____

d)

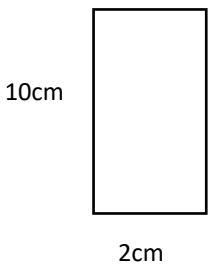


Area _____

Perimeter:

_____

e)



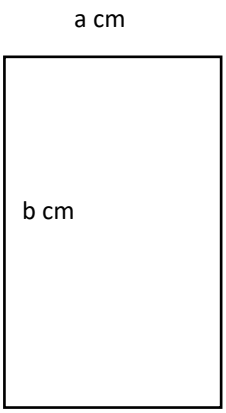
Area _____

Perimeter:

_____

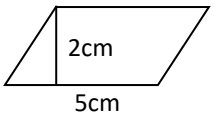
Q2 **Complete the table**

	a	b	Area	Perimeter
a	4cm	6cm		
b	5cm		$35cm^2$	
c	6cm			28cm
d	1.5cm		$2.25cm^2$	
e		7cm	$42cm^2$	
f	8cm	12cm		
g	9cm	8cm		
h		11cm	$99cm^2$	
I		13cm	$39cm^2$	
j	3cm	14cm		
k		2cm	$48cm^2$	
l	7cm			22cm
m		6cm		28cm



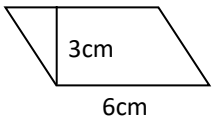
Q1 **Find the area of the following parallelograms.**

a)



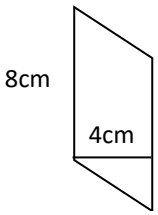
Area _____

b)



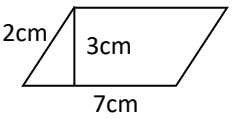
Area _____

c)



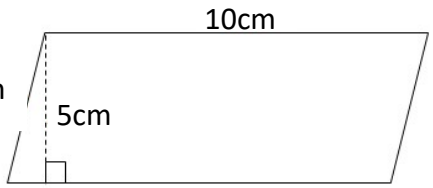
Area _____

d)



Area _____

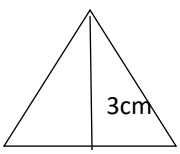
e)



Area _____

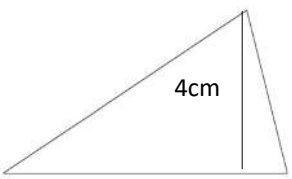
Q2 **Find the area of the following triangles.**

a)



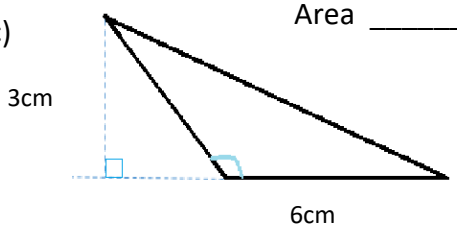
Area _____

b)



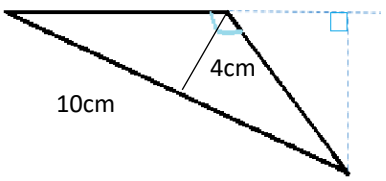
Area _____

c)



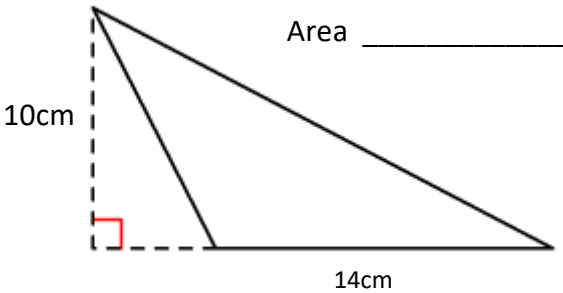
Area _____

d)



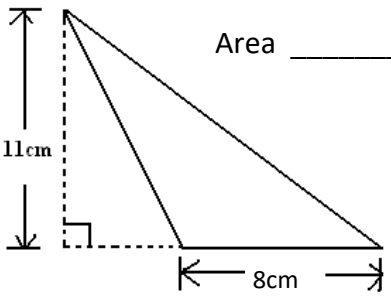
Area _____

e)



Area _____

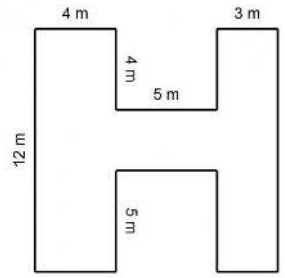
f)



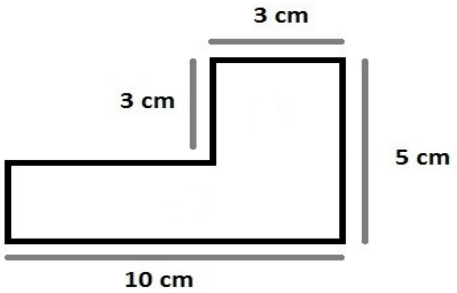
Area _____

Q1 **Find the area of the following compound shapes.**

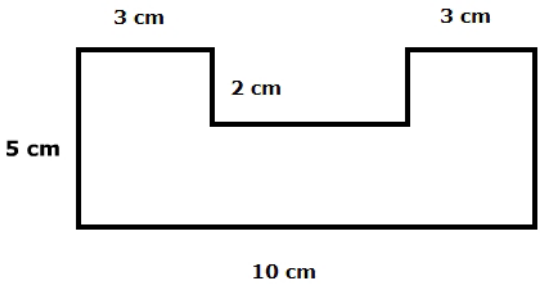
a)



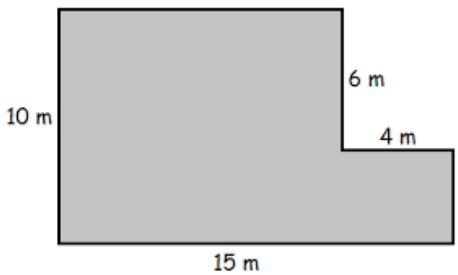
b)



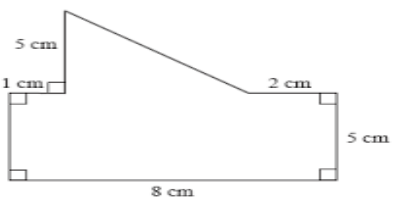
c)



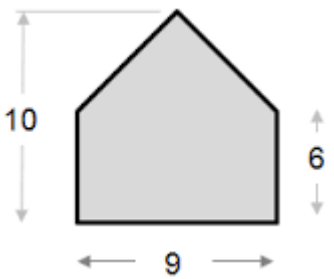
d)



e)

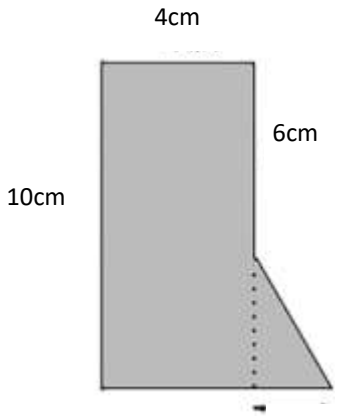


f)

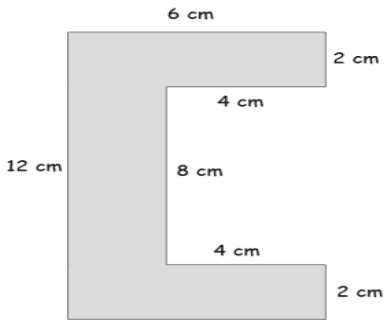


Give the answer in cm.

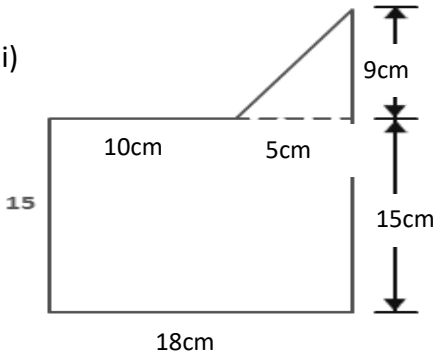
g)


4cm
6cm
10cm
2cm

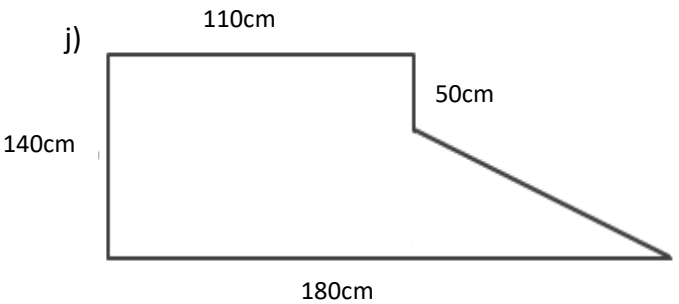
h)


6 cm
2 cm
4 cm
12 cm
8 cm
4 cm
2 cm

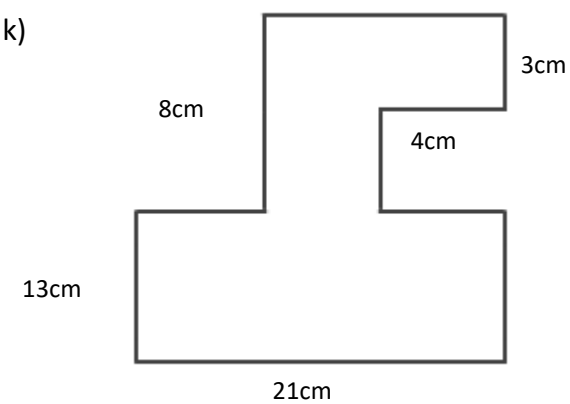
i)


9cm
10cm
5cm
15
15cm
18cm

j)


110cm
50cm
140cm
180cm

k)


10cm
3cm
8cm
4cm
13cm
21cm

Volume

Chapter 5

Exercise 5a

cubes and cubic

Q1 **Calculate the volume of each of the following cubes whose side length is given.**

a) 2cm _____ _____

b) 8cm _____ _____

c) 1.5cm _____ _____

d) 7cm _____ _____

e) 4cm _____ _____

f) 2.5cm _____ _____

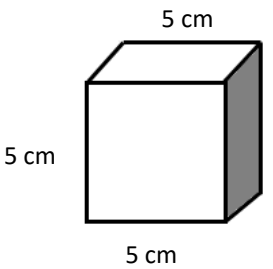
g) 9cm _____ _____

h) 10cm _____ _____

i) 6cm _____ _____

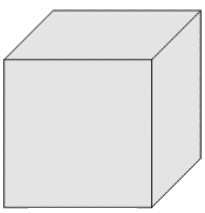
Q2 **Find the volume of each cube .**

a)



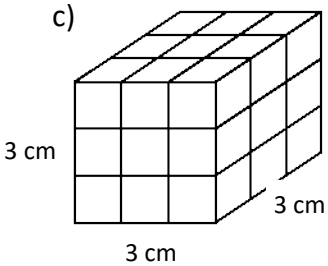
_____
_____
_____

b)



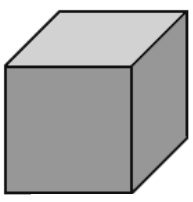
_____
_____
_____

c)



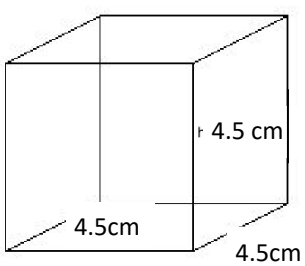
_____
_____
_____

d)



_____
_____
_____

e)



_____
_____
_____

Q3 **Find the unknown values for the following questions.**

a) The volume of a cube is $3375cm^3$. What is the length of each side?

_____

_____

_____

b) The volume of a cube is $4096cm^3$. What is the length of each side?

_____

_____

_____

c) The volume of a cube is $2197cm^3$. What is the width of this cube?

_____

_____

_____

d) The volume of a cube is $17576cm^3$. What is the length of each side?

_____

_____

_____

e) The width of a cubic water tank is 15cm. What is the capacity of this water tank?

_____

_____

_____

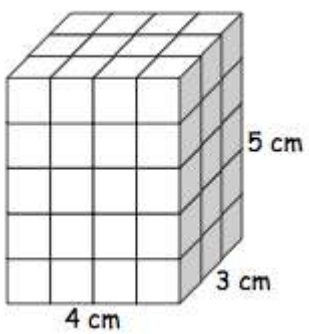
Volume = Cross sectional area x length

Q1 **Find the volume of each rectangular prism whose dimensions are given below All measurements are in cm**

	length	breadth	height	Volume
a	11	8	5	
b	5	4	3	
c	7	6	5	
d	9	7	4	
e	12	6	4	
f	12		7	504
g	3	9		108
h		8	5	480
i	5		7	315
j		8	9	864

Q2 **Find the volume of each rectangular prism. (All measurements are in cm)**

a)

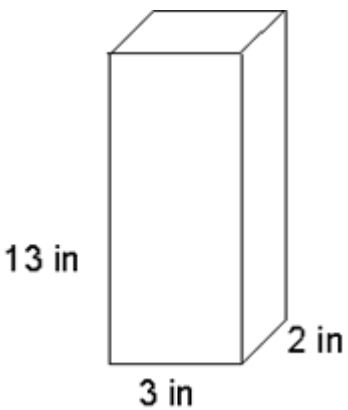


_____

_____

_____

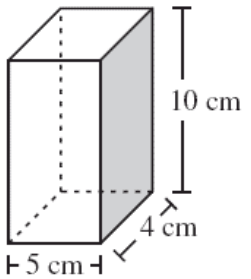
a)



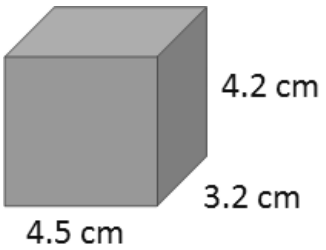
_____

_____

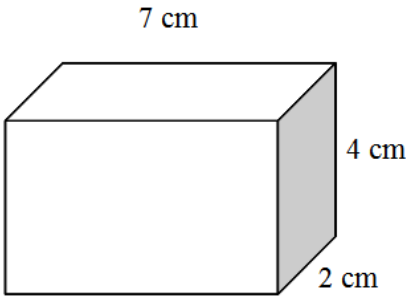
c)


10 cm
4 cm
5 cm

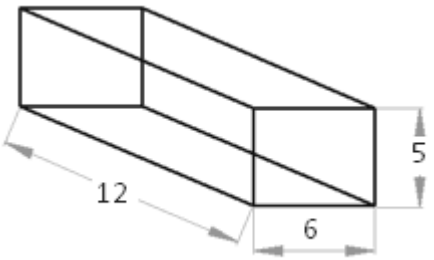
d)


4.2 cm
3.2 cm
4.5 cm

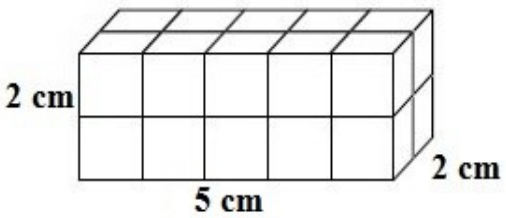
e)


7 cm
4 cm
2 cm

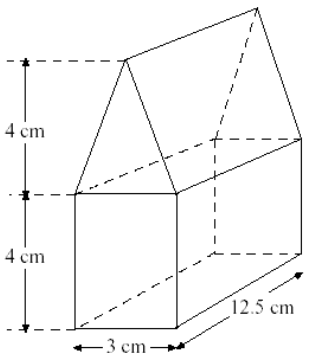
f)


5
12
6

g)


2 cm
2 cm
5 cm

h)


4 cm
4 cm
12.5 cm
3 cm

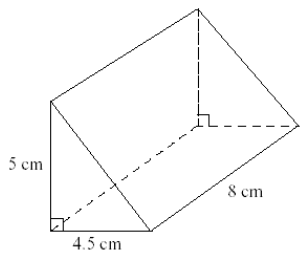
Volume = Cross sectional area x length

Q1 **Find the volume of each triangular prism whose dimensions are given below .**
All measurements are in cm

	Base area	Height	Volume
a	120	36	
b	98	12	
c	35		980
d		9	738
e	36	6	
f	108	12	
g	45	12	
h		12	672
i	60	16	
j	25	8	
k	40		360

Q2 **Find the volume of each triangular prism whose dimensions are given below .**
All measurements are in cm

a)

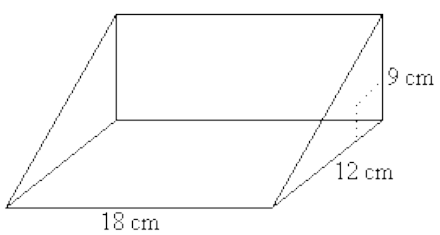


_____

_____

_____

b)

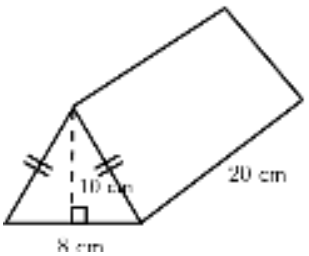


_____

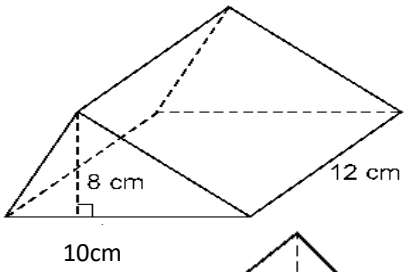
_____

_____

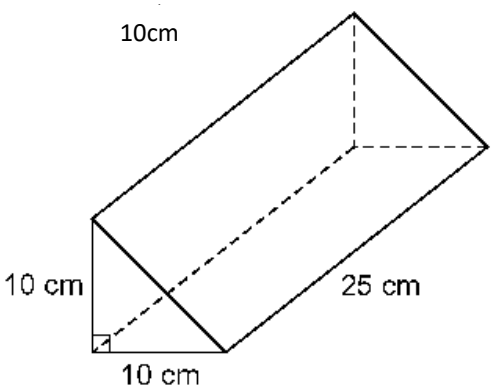
c)


10 cm
20 cm
8 cm

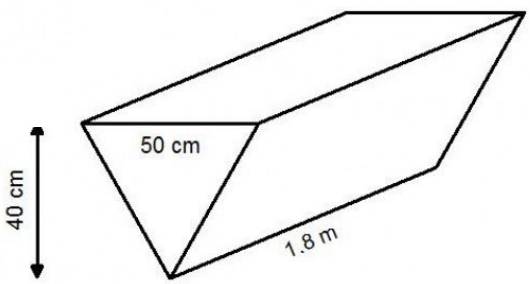
d)


8 cm
12 cm
10cm

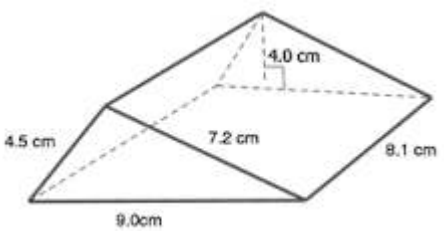
e)


10 cm
25 cm
10 cm

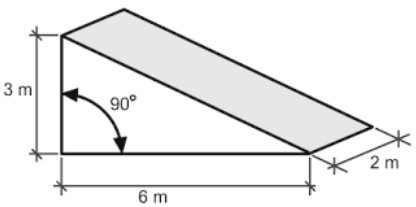
f)


40 cm
50 cm
1.8 m

g)


4.0 cm
4.5 cm
7.2 cm
8.1 cm
9.0cm

h)


3 m
90°
2 m
6 m

Exercise 5d

Problem solving in volume

a) Find the volume of a rectangular prism with dimensions of 7cm, 8cm and 11cm.

_____

_____

_____

b) One of the faces of a cube has an area of $36cm^2$. What is the volume of the cube?

_____

_____

_____

c) A triangle has an area of $625cm^2$. If the base of the triangle is 50cm long. Find its height?

_____

_____

_____

d) Find the side length of a cube that has a volume of $15625cm^3$.

_____

_____

_____

e) Find the volume of a triangular prism with a triangular base area of $50cm^2$ and height 10cm.

_____

_____

_____

Unit conversion

Chapter 6

Metric Units

10mm	1cm
100cm	1m
1000m	1km
1000mg	1g
1000g	1kg
1000kg	1 tonne
1000ml	1 litre
1ml	$1cm^3$

Imperial Units

12 inches	1 foot
3 feet	1 yard
1760 yards	1 mile
16 ounces	1 pound
14 pounds	1 stone
2240 pounds	1 ton
8 pints	1 gallon

Exercise 6a

Length

Q1 **Convert the following to centimetres (cm)**

a) 5m _____ b) 20m _____ c) 9m _____

d) 17m _____ e) 15m _____ f) 30m _____

g) 16m _____ h) 63m _____ i) 32m _____

j) 7m _____ k) 11m _____ l) 21m _____

m) 25m _____ n) 1000m _____ o) 980m _____

Q2 **Convert the following to metres (m)**

a) 80cm _____ b) 15cm _____ c) 82.4cm _____

d) 38.5cm _____ e) 16.32cm _____ f) 95.5cm _____

g) 7.75cm _____ h) 0.98cm _____ i) 70cm _____

j) 38cm _____ k) 22cm _____ l) 75.8cm _____

m) 6.76m _____ n) 42.1cm _____ o) 22cm _____

Q3 **Convert the following to millimetres (mm)**

a) 400cm _____ b) 1200cm _____ c) 2800cm _____

d) 7km _____ e) 9100cm _____ f) 5.5km _____

g) 20km _____ h) 8500cm _____ i) 7.7km _____

j) 1000cm _____ k) 80km _____ l) 75km _____

m) 4.5km _____ n) 0.09km _____ o) 7200cm _____

Q4 **Convert the following measurements to the units shown**

a) 48cm _____ m b) 57mm _____ m c) 18mm _____ cm

d) 8mm _____ m e) 90cm _____ m f) 700mm _____ cm

g) 900cm _____ mm h) 845mm _____ cm i) 3.4km _____ m

j) 13m _____ cm k) 9.85km _____ m l) 1235mm _____ cm

m) 12.3m _____ mm n) 6500mm _____ m o) 1200mm _____ cm

Exercise 6b

Mass

Q1 **Convert the following to kilograms**

a)	6500g	_____	b)	7t	_____	c)	7.35t	_____
d)	75g	_____	e)	8.26t	_____	f)	9.5t	_____
g)	8.135t	_____	h)	85g	_____	i)	7.25t	_____
j)	7.52t	_____	k)	7450g	_____	l)	725g	_____
m)	7.45t	_____	n)	4.5t	_____	n)	1025g	_____

Q2 **Convert the following to grams**

a)	25kg	_____	b)	7.5t	_____	c)	150t	_____
d)	150kg	_____	e)	200kg	_____	f)	7.25t	_____
g)	8.5t	_____	h)	2000kg	_____	i)	2.125kg	_____
j)	2.2t	_____	k)	8.525kg	_____	l)	70kg	_____
m)	22.875kg	_____	n)	3t	_____	n)	42kg	_____

Q3 **Convert the following to the unit shown.**

a)	5000g	_____	kg	b)	4.25t	_____	kg	c)	5.4t	_____	g
d)	85000kg	_____	t	e)	7560g	_____	kg	f)	7000g	_____	kg
g)	845g	_____	kg	h)	8607kg	_____	t	i)	10000kg	_____	t
j)	8.6t	_____	kg	k)	15.38t	_____	kg	l)	4005kg	_____	t
m)	760kg	_____	t	n)	4800g	_____	kg	o)	775g	_____	kg

Q1 **How many minutes are there in each of the following?**

a)	2 hours = _____	b)	5 hours = _____	c)	13 hours = _____
d)	2 days = _____	e)	2 weeks = _____	f)	5 weeks = _____
g)	20 days = _____	h)	1.5 hours = _____	i)	5 days = _____
j)	30 days = _____	k)	7 hours = _____	l)	1 year = _____
m)	50 days = _____	n)	15 days = _____	o)	15 days = _____

Q2 **How many hours in each of the following.**

a)	3 days = _____	b)	2 week = _____	c)	1 fortnight = _____
d)	1 month = _____	e)	July = _____	f)	August = _____
g)	January = _____	h)	5 days = _____	i)	10 days = _____
j)	2 fortnight = _____	k)	2 month = _____	l)	3 days = _____
m)	4 days = _____	n)	300min = _____	0)	120 min = _____

Q3 **How many days in each of the following.**

a)	2 weeks = _____	b)	5 weeks = _____	c)	20 weeks = _____
d)	2 fortnight = _____	e)	1 year = _____	f)	April = _____
g)	1 decade = _____	h)	7 weeks = _____	i)	2 decade = _____
j)	1 year = _____	k)	2 month = _____	l)	3 months = _____
m)	February = _____	n)	4 year = _____	0)	May = _____

Q4 **Complete the following.**

a)	5 decades	_____	years
b)	16 minutes	_____	seconds
c)	96 months	_____	years
d)	1 leap year	_____	days
e)	4 years	_____	days
f)	1 fortnight	_____	days
g)	2 centuries	_____	years

Q1 Addition and subtraction of time

a)

	h	min
	7	10
+	5	30

b)

	h	min
	18	46
-	8	25

c)

	h	min
	17	20
+	8	45

d)

	h	min
	9	25
+	13	35

e)

	h	min
	10	45
+	9	13

f)

	h	min
	12	46
+	8	26

g)

	h	min
	18	45
-	7	25

h)

	h	min
	19	40
-	7	20

i)

	h	min
	21	46
-	9	32

j)

	h	min
	22	48
-	11	28

k)

	h	min
	10	14
+	7	23

l)

	h	min
	34	28
+	18	22

Q2 What will be the time?

a) 10 minutes after 7.50 am _____

b) 5 Hours after 7.00pm _____

c) 22 minutes after 5.35am _____

d) 30 minutes after 7.30pm _____

e) 40 minutes after 7.47am _____

f) 35 minutes after 5.45 am _____

g) 15 minutes after 10.45pm _____

h) 25 minutes after 7.30am _____

i) 45 minutes after 8.45am _____

j) 5 minutes after 7.50 am _____

Q3 What is the length of time between?

a) 8.30am and 10.15pm _____

b) 4.25am and 3.00pm _____

c) 4.00am and 9.00am _____

d) 5.00pm and 10.00pm _____

e) 4.20am and 7.35am _____

f) 9.00am and 10.30pm _____

g) 7.15am and 9.30pm _____

h) 7.30am and 10.15pm _____

i) 5.30 am and 10.30pm _____

j) 11.15am and 12.15pm _____

Clocks and Time

Chapter 7

Exercise 7a

Clocks &Time

Q1 **Write the following times by using am or pm.**

a) 9 in the morning _____

b) 12.25 at night _____

c) 3 hours before noon _____

d) 9.35 in the evening _____

e) 4 hours before noon _____

Q2 **Change the following 24 hour times to 12 hour times.**

a) 08 . 00 _____ b) 21 . 19 _____ c) 19 _____

d) 22 . 20 _____ e) 18 . 55 _____ f) 23 _____

g) 20 . 30 _____ h) 19 . 30 _____ i) 21 _____

Q3 **Change the following 12 hour times to 24 hour times.**

a) 3 . 40 pm _____ b) 9 . 15 am _____ c) 7 . 35 am _____

d) 5 . 15 pm _____ e) 3 . 10 pm _____ f) 9 . 00 am _____

g) 12 . 0 pm _____ h) 12 . 0 am _____ i) 8 . 0 pm _____

Q4 **Write the following times in words.**

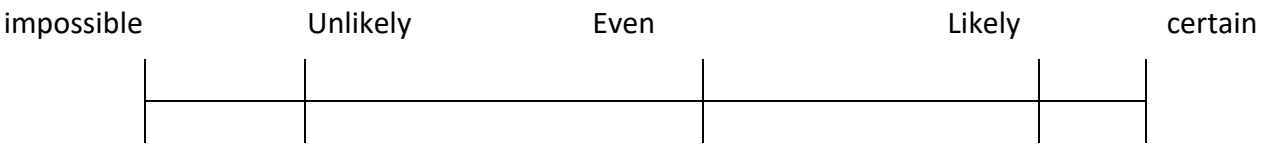
a) 9.10 _____

b) 8.20 _____

c) 7.55 _____

d) 4.50 _____

e) 11.30 _____



Q1 **State the status (Impossible, Unlikely, even, likely, certain) of the probability of the following sentences**

a) When a coin is dropped it will show 'a head' . _____

b) Tomorrow is going to rain _____

c) You will get 100% marks in your maths examination _____

d) After Tuesday is Wednesday _____

e) You will die tomorrow. _____

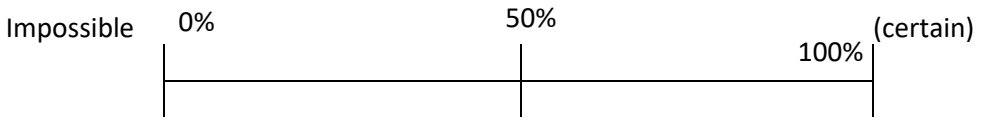
f) Every coin has three sides. . _____

g) England is going to win in his next football match with Germany. _____

h) next year will be 2001 _____

i) Mr Nat will live for 300 years . _____

j) You will get a tail when you toss a coin . _____



Q2 **Use the above probability scale to answer questions below.**

a) I will get a head when I toss a coin.

_____

b) II will get a 4 when I toss a dice.

_____

c) There will be a 13 months in the next year.

_____

d) There will be a 7 or more by tossing a dice.

_____

One letter is chosen at random from the word ESSENTIAL. What is the probability that it is

d) O _____

A _____

$$Probability = \frac{Number\ of\ event\ in\ which\ a\ success\ occurs}{Total\ number\ of\ events\ made}$$

Q3 A bag contains a blue ball, white ball and a black ball. One ball is chosen at random. Find the following probabilities

a) The probability the black ball is chosen

_____

b) The probability the white ball is chosen.

_____

c) The probability the blue ball is chosen

_____

d) The probability the yellow ball is chosen

_____

Q4

I roll an ordinary dice. Find the probability that I score

a) 4 _____ b) 1 _____

c) 6 _____ d) 3 _____

e) less than 3 _____

Q5

1 2 3 4 5 6 7 8 9 10

Find the probability from the above numbers to the following questions

a) What is the probability of choosing square numbers.

_____

b) What is the probability of choosing prime numbers

_____

c) What is the probability of choosing odd numbers

_____

d) What is the probability of choosing even numbers

_____

e) What is the probability of choosing triangular numbers

_____

Q4 One card is drawn at random from an ordinary pack of 52 playing cards. Give the probability that it is

a) a red card _____

b) a picture card _____

c) a diamond _____

d) a club _____

e) a heart _____

Q5 One letter is chosen at random from the letters in the word E S S E N T I A L . What is the probability that it is

a) a letter E _____

b) a vowel _____

c) a letter N _____

d) a symmetrical letter _____

e) a letter Y _____

Handling data

Chapter 9

***Mean*: Average**

***Median* : Middle number**

***Mode*: Most occurring data**

***Range*: Highest data - Lowest data**

Exercise 9a

Mean, Median, Mode and Range

Q1 **Find the mean for the following data. Give the answers to one decimal place.**

$$Mean = \frac{Sum\ of\ all\ the\ data}{Number\ of\ data}$$

a) 2 5 5 7 8 5 10

b) 7 8 10 15 6 9 10

c) 10 11 11 12 11 10 5

d) 5 6 6 7 6 8 6

e) 9 9 8 3 4 5 9

f) 12 10 3 3 4 9 10

Q2 **Find the mode for the following data.**

a) 2 5 5 7 8 5 10

b) 7 8 10 15 6 9 10

c) 10 11 11 12 11 10 5

d) 5 6 6 7 6 8 6

e) 9 9 8 3 4 5 9

f) 12 10 3 3 4 9 10

Q3 **Find the median for the following data. (Arrange the data to lowest to highest)**

a) 2 5 5 7 8 5 10

b) 7 8 10 15 6 9 10

c) 10 11 11 12 11 10 5

d) 5 6 6 7 6 8 6

e) 9 9 8 3 4 5 9

f) 12 10 3 3 4 9 10

Q4 **Find the range for the following data. (Highest data - Lowest data)**

a) 2 5 5 7 8 5 10

b) 7 8 10 15 6 9 10

c) 10 11 11 12 11 10 5

d) 5 6 6 7 6 8 6

e) 9 9 8 3 4 5 9

f) 12 10 3 3 4 9 10

Exercise 9b

Frequency table

Q1 **Draw the frequency table for the following data. and Calculate Mean, Median, Mode and range**

a)

2 2 3 5 5 6 4 3 3 6 6 2

2 2 3 4 5 5 3 4 3 2 6 2

3 4 5 6 4 3 5 6 2 4 5 6

3 4 5 6 2 3 4 6 4 5 3 2

Data	Tally	Frequency	Fre x data

Mean : _____

Mode: _____

Median : _____

Range: _____

b)

12 12 13 15 15 16 14 13 13 13 15 12

12 12 13 14 15 16 14 13 12 16 16 12

13 14 15 16 14 13 15 16 12 14 15 16

13 14 15 16 12 13 14 16 14 15 13 12

Data (x)	Tally	Frequency (f)	f x x

Mean : _____

Mode: _____

Median : _____

Range: _____

c)

20 21 22 23 24 21 22 23 23 23 24 23

22 22 24 24 23 24 24 23 22 23 24 24

23 24 22 20 20 20 21 21 20 20 21 22

23 23 22 21 20 23 24 24 23 20 21 20

Data (x)	Tally	Frequency (f)	f x x

Mean : _____

Mode: _____

Median : _____

Range: _____

d)

4 6 8 10 12 12 12 10 10 8 6 4

4 12 8 8 8 4 6 10 12 10 4 8

10 12 10 4 8 10 12 6 6 6 8 10

12 12 10 4 6 8 12 12 10 4 8 6

Data (x)	Tally	Frequency (f)	f x x

Mean : _____

Mode: _____

Median : _____

Range: _____

Sequences

Chapter 10

Exercise 10a

Writing sequences

Q1 **The first term and the rule for finding next term is given. Find the first four terms.**

a) first term 50 . Rule : multiply by 2 _____

b) first term 2000 . Rule : divide by 2 _____

c) first term 30. Rule : subtract 2.5 _____

d) first term 4000 . Rule : halve _____

e) first term 100 . Rule : add 1.5 _____

f) first term 200 . Rule : multiply by 1.5 _____

g) first term 6 . Rule : subtract 0.5 _____

h) first term 0.5 . Rule : multiply by 3 _____

i) first term 300 . Rule : divide by 10 _____

j) first term 8 . Rule : multiply by 2 _____

k) first term 10 . Rule : multiply by 0.5 _____

Q2 **The nth term of the sequence is given . Write the first five terms**

a) n - 2 : _____, _____,_____, _____,_____

b) 2n + 1 : _____, _____,_____, _____,_____

c) n - 3 : _____, _____,_____, _____,_____

d) 50 -2n : _____, _____,_____, _____,_____

e) 3n + 2 : _____, _____,_____, _____,_____

f) 5n : _____, _____,_____, _____,_____

Q3 **Finding the rule for the nth term**

a) 3, 5, 7, 9…….

_____

_____

_____

b) 10, 8, 6, 4…….

_____

_____

_____

c) 13, 15, 17, 19…….

_____

_____

_____

d) 30, 50, 70, 9…….

_____

_____

_____

e) -3, -5, -7, -9…….

_____

_____

_____

f) 100, 80, 60, 40...

_____

_____

_____

g) .5, 1, 1.5, 2. 2.5

_____

_____

_____

h) 3.6, 5.6, 7.6……

_____

_____

_____

i) 32, 24, 16, 8…….

_____

_____

_____

j) 75, 65, 55, 45…..

_____

_____

_____

k) 3.3, 5.6, 7.9…….

_____

_____

_____

l) 1.5, 5.5, 9.5…….

_____

_____

_____

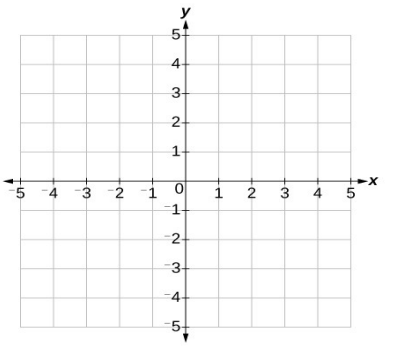
Coordinates & Transformation

Chapter 11

Exercise 11a

Coordinates

Q1 **Mark the following coordinates in the grid.**



a) Which quadrant is each of these in?

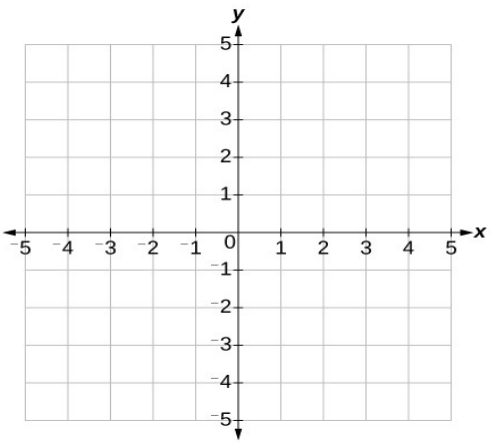
i) (1,3) _____

ii) (-2, -5) _____

iii) (-2, 4) _____

iv) (3, -2) _____

Q2 **Plot the following points and joint each point to next with a straight line.**



(1,1), (1, 2), (2,3), (3,3), (4,2), (4,1), (3,1), (3,0)

(3,-1), (3,-2), (2,-2), (2,-1), (2,0), (2,1)

Q3 **Plot the following points and joint each point to next with a straight line in your exercise book.**

(1, 10), 1,-1), (2,9), (3,10), (4,9), (4, -7), (3, -10), (3,-5), (3,9), (2,-1), (2,-3), (-1,-3), (1,-3)

Q4 **Plot the following points and joint each point to next with a straight line in your exercise book.**

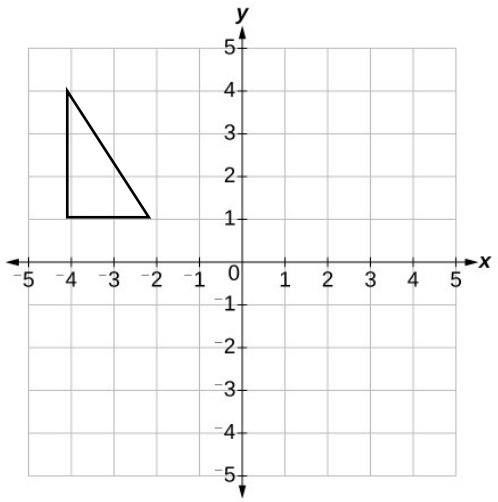
(1,9), (1,4), (2,3), (2,-4), (1,-5), (-1,-6), (-1, 3), (0,4), (0, 9), (1,9)

Exercise 11b

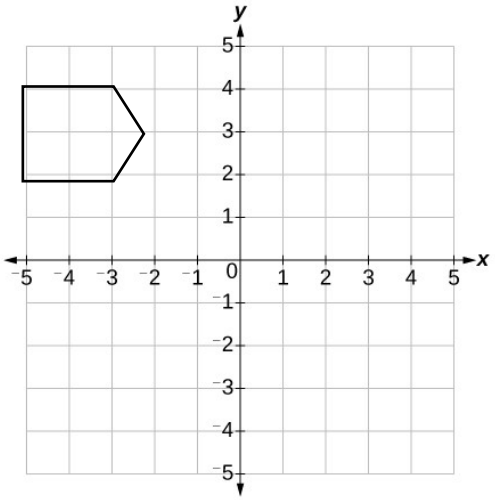
Reflection

Q1 **Draw the reflections for the following figures. (on X axis and Y axis)**

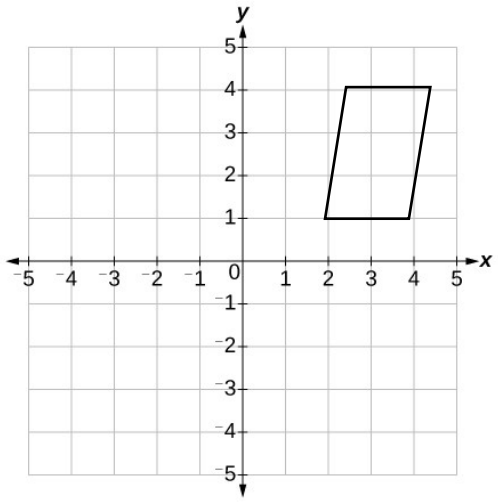
a)



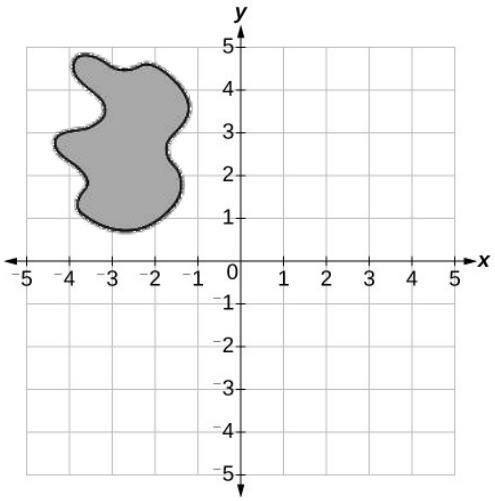
b)



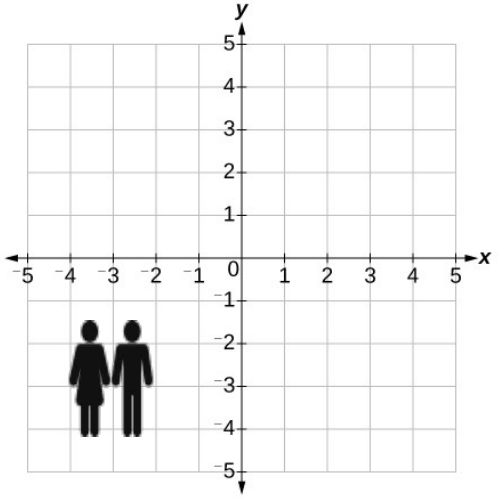
c)



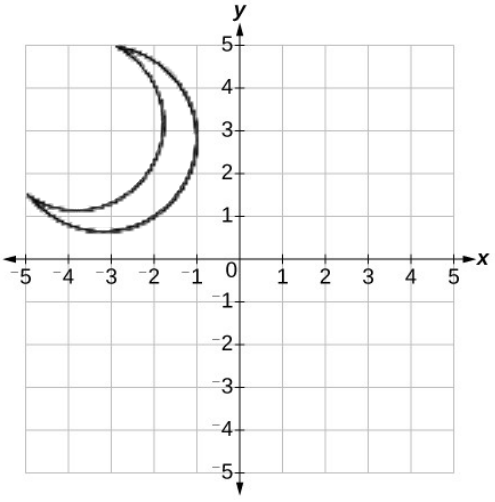
d)



e)



f)

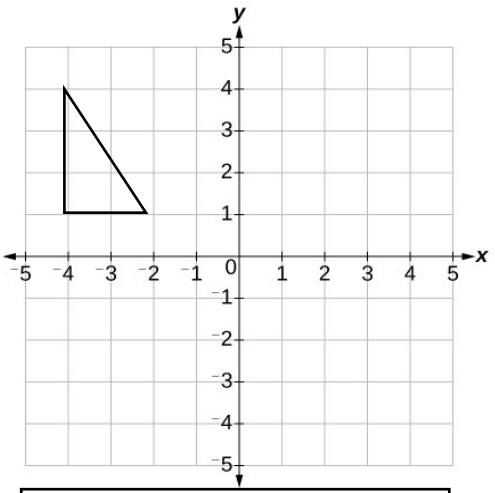


Exercise 11c

Translation

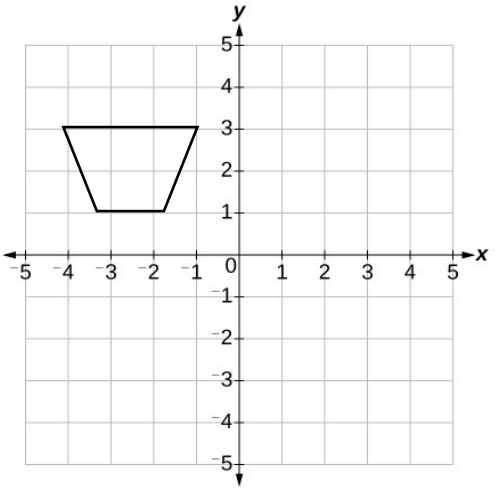
The original shape is not turned during translation. When we translate a shape, every point moves the same distance in the same direction.

a)



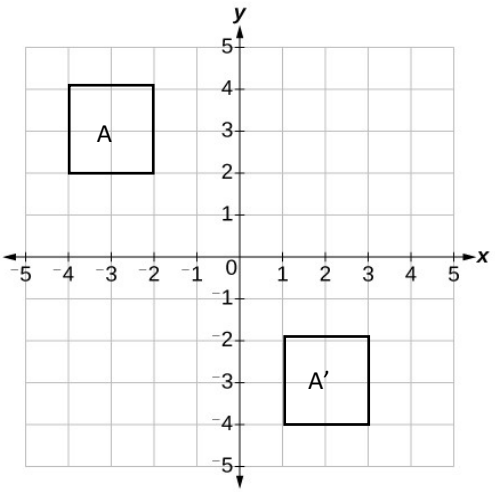
3 units up and 3 units left

b)



4 units right and 1 units up

c)

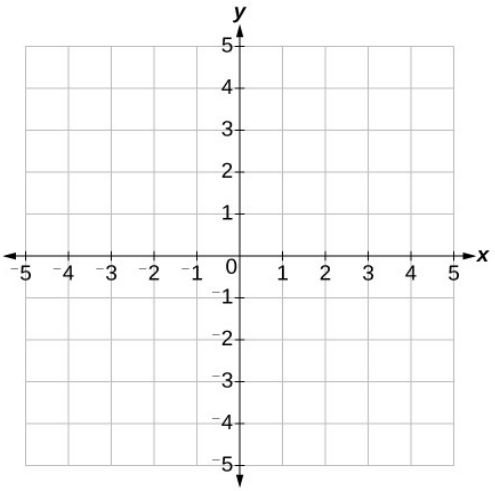


Shape A has been translated 4 units down and 3 units up to A'. Write down the translation that would map A' onto A

_____

_____

d)



Plot these points on the above grid. Join them to make a square.

A(-3, 3), B(2,3), C(-3,-2), D(2,-3)

Translate ABCD 1 units right and 1 units up. Write down the coordinate of A' B' C' D'

___, _____, _____, _____

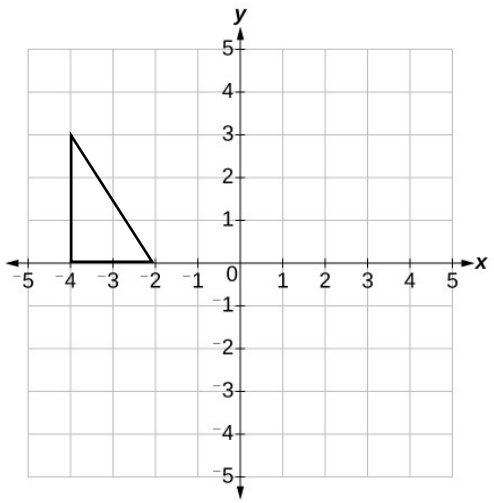
Exercise 11c

Rotation

To rotate a shape you need to know the centre of rotation and the angle of rotation. If the direction is not given , the angle of rotation is always in an anticlockwise direction.

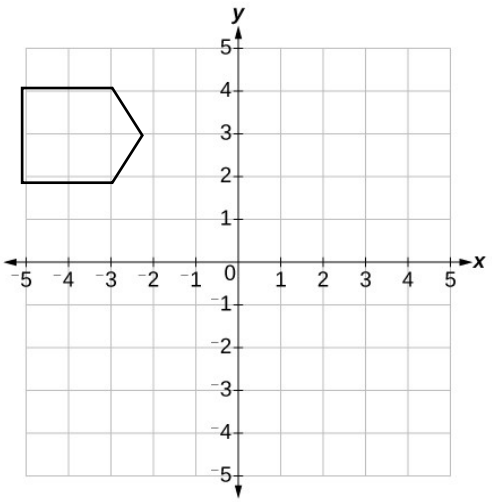
Q1 **Rotate the following shapes**

a)



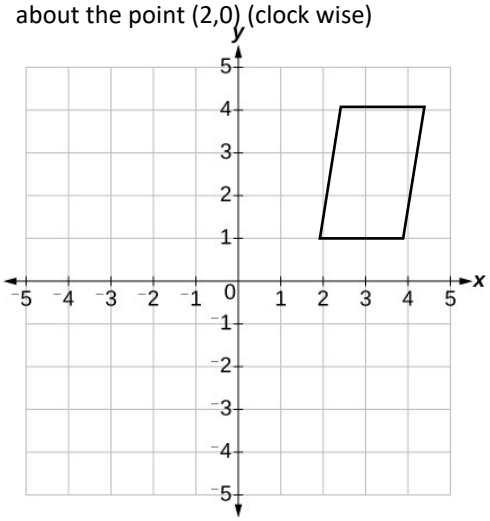
Rotate the shape above through 180° about the point (2,0) (clock wise)

b)



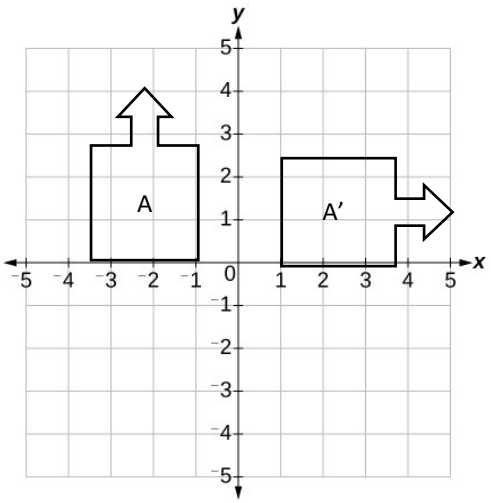
Rotate the shape above through 90° about the point (-2,3) (clock wise)

c)



Rotate the shape above through 45° about the point (2,1) (Anti clock wise)

d)



Describe the above rotation.

_____

_____

_____

_____

OUR PUBLICATIONS (TGL)

NO	NAME	STATUS	AUTHOR
1	Verbal reasoning (Orange)	Published	M.Nat
2	Non verbal Reasoning (Apple)	Published	M.Nat
3	Easy Going Verbal reasoning B1	Published	M.Nat
4	Easy Going Non Verbal reasoning	Published	M.Nat
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6	Easy Going Mathematics Book 2	Published	M.Nat
7	Easy Going Mathematics Book 3	Published	M.Nat
8	Easy Going Mathematics Book 4	Published	M.Nat
9	Easy Going Mathematics Book 5	Published	M.Nat
10	Easy Going Mathematics Year 3	Published	M.Nat
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12	Easy Going Mathematics Year 4	Published	M.Nat
13	Easy Going Verbal reasoning year 4	Published	M.Nat
14	Easy Going Non Verbal Reasoning Year 4	In Print	M.Nat
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