YOUTH MATHS LEARNERS' BOOK 2

Contents

UNIT 1: NUMBERS

When you think about how many, how much...you develop the idea of NUMBER and MEASUREMENT using UNITS.

For example, 500 cows can cost 50,000 SSP.

This is information about cows. If the cows are counted, they will be 500. 500 is the number of cows. It answers the question, how many. To know how many, we count, This is way we can tell or measure the numbers. The 50,000 SSP is the amount that the 500 cows can be sold. This is called UNITS OF MEASUREMENT. Othe units of measurements are kilos, grames. Centimentres …

Look at these numbers.

5,432 = Five thousand (5,000) + four hundred (400) + thirty (30) + two (two)

Thousand	Hundred	Ten	Unit
(1,000)	(100)	(10)	(1)
5	4	3	1

In the above case, the digits are used in different positions or places and their value depends upon the place where they are.

Exercise 1

Write in words

1. 1,170
2. 2,534
3. 854
3. 901
5. 6,832

Write in figures

1. Four hundred and fifty
2. Seven thousand, one hundred and sixteen
3. Two thousand, two hundred and five

Exercise 2:

A) Copy and complete the following:

1) 419 = ☐ hundreds, ☐ tens, ☐ ones

2) 623= ☐ hundreds, ☐ tens, ☐ ones

3) 771= ☐ hundreds, ☐ tens, ☐ ones

4) 408= ☐ hundreds, ☐ tens, ☐ ones

B) Copy and compete the following:

1) 2 hundreds, 0 tens, 4 ones = ☐

2) 2 hundreds, 1 tens, 3 ones = ☐

3) 0 hundreds, 5 tens, 0 ones = ☐

4) 6 hundreds, 7 tens, 1 ones = ☐

5) 9 hundreds, 0 tens, 0 ones = ☐

B) 1) 204 2) 223 3) 50 4) 671

5) 900

Place value

462 135: 4 hundreds of thousands 6 tens of thousands

2 thousands 1 hundreds 3 tens and 5 ones

Exercise 1

Complete the table below.

Number	Place Value					
	Hundreds of thousands	Tens of thousands	Thousands	Hundreds	Tens	Ones
374				3	7	4
6 782						
13 564						
324 000						
49 604						
20 006						

Exercise 2

1. What is the place value of digit 3 in each of the following numbers?

   (a) 78 354 (b) 26 003

   (c) 35 866 (d) 53 418

2. Write the following numbers in symbols:

   a) Fifty six thousand three hundred and seventy eight.

   b) Forty eight thousand nine hundred

and nine

c) Twenty eight thousand and eight

d) Fifty one thousand and ninety.

What number comes after 99?

100 or one hundred in words.

What number comes after 999?

or one thousand in words.

Exercise 2

Count the first five numbers after 100.

Write the numbers in symbols and words :

101 102

103 104

105

Exercise 3

A) Write the following numbers in ascending order:

1) 21, 72, 35, 15, 58, 90, 64, 40, 28

2) 29, 92, 48, 37, 61, 76, 15, 40, 77

3) 47, 10, 34, 88, 30, 39, 60, 27, 62

B) Write the following numbers in descending order:

1) 20, 33, 78, 40, 24, 46, 10, 67, 55

2) 61, 69, 53, 21, 36, 79, 60, 24, 4

Write the following numbers in symbols:

a). Sixty four thousand three hundred and seventy eight.

b). Forty eight thousand nine hundred and nine

c). Twenty five thousand and two

d). Eighty one thousand and ninety.

Write the next number after each of the following numbers:

a). 999 b). 34 299

c). 9 999 d). 19 999

e). 99 009

Copy and complete the following

10 × 1 = 10	12 × 1 = 12
10 × 2 = 20	12 × 2 = 24
10 × 3 = 30	12 × 3 = 36
10 × 4 = 40	12 × 4 = 48
10 × 5 = 50	12 × 5 = 60
10 × 6 = 60	12 × 6 = 72
10 × 7 = 70	12 × 7 = 84
10 × 8 = 80	12 × 8 = 96
10 × 9 = 90	12 × 9 = 108
10 × 10 = 100	12 × 10 = 120
10 × 11 = 110	12 × 11 = 132
10 × 12 = 120	12 × 12 =144

Exercise 11:

Copy and complete the missing numbers:

1) 2× ☐ = 18

2) ☐ × 3 = 9

3) 10 × ☐ = 100

4) 4× ☐ = 20

5) 10 × 6 = ☐

6) 4 × 5 = ☐

7) 3 × ☐ = 27

8) ☐ × 5 = 25

9) ☐ × 1 =10

10) 3 × 10 = ☐

11) 3 × ☐ = 24

12) ☐ × 8= 40

13) 1× 9 = ☐

14) ☐ × 3 = 24

15) 5 × ☐ = 35

16) 2 × ☐ = 20

17) 4× ☐ = 28

18) ☐ × 1 = 2

Answers:

1) 9	2) 3	3) 10	4) 5
5) 60	6) 20	7) 9	8) 5
9) 10	10) 30	11) 8	12) 5
13) 9	14) 8	15) 7	16) 10
17) 7	18) 2		

1. The Ministry of Health has trained 259 men and 416 women on HIV awareness in Rumbek West. How many people are now aware of HIV in Rumbek West?

2. A cattle camp in Wulu is selling milk to a Chinese company. The first day it sold

145 litres of milk. The second day it sold 562 litres. How many litres of milk did the cattle camp sell in the first two days?

3. Mama Helen can draw 45 pictures per day. How many pictures can she draw in 45 days?

4. A PLEFS class in Awerial has 38 learners. Each learner has a small garden. If each learners planted 15 cabbages in their small gardens, how many cabbages will the learners have in total?

1. Write down the divisors for each of the following numbers:

   11, 13, 15, 17, 19, 21, 31, 35, 42

2. List the prime numbers between 20 and 35.

1. Fill in the blanks with the next number in the pattern.

   1, 3, 5, 7, 9, ------

   5, 9, 13, 17, 21, 25, --------

   20, 18, 16, 14, ---------

   23, 29, 31, 37, --------

0, 2, 4, 6, 8, ---------

1, 2, 3, 5, 7, 11,---------

Magic Square

The square contains 16 squares.

1	15	14	4
12	6	7	9
8	10	11	5
13	3	2	16

If you add ACROSS: 1+15+14+4 =34

Add all the other numbers ACROSS.

If you add DOWN: 1 +12 +8 +13 =34

Now add all other numbers DOWN

If you add HORIZONTALLY: 13 + 10 +7 +4 =34

Now add all other numbers HORIZONTALLY.

Find the missing numbers to complete these magic squares

3			15
	5		4
	8	12	
2		7	14

UNIT 2: REVISION

Exercise 1

Complete the following as shown in the example below. The first one has been done for you.

539 = 5 hundreds 3 tens 9 ones

1). 480

2). 264

3). 954

4). 335

5). 812

6). 687

7). 326

8). 184

9). 203

Exercise 2

Write down each of the following numbers in the following table. Number one has been done for you.

1). 4327

2). 1000

3). 9645

4). 3034

5). 6784

6). 1234

7). 6598

Six thousand four hundred and two

Nine thousand, two hundred and fifty four

	Th	H	T	O	Number in words
1.	4	3	2	7	Four thousand three hundred and twenty seven
2.					
3.					
4.					
5.					

TEN THOUSANDS PLACE VALUE

A number such as 31456 has digits 3, 1, 4, 5 and 6

The digit 3 is in the ten thousands place value

The digit 1 is in the thousands place value

The digit 4 is in the hundreds place value

The digit 5 is in the tens place value

The digit 6 is in the ones place value

Fill in the following

a). 63256 b). 21564

c). 19064 d). 85342

e). 75382

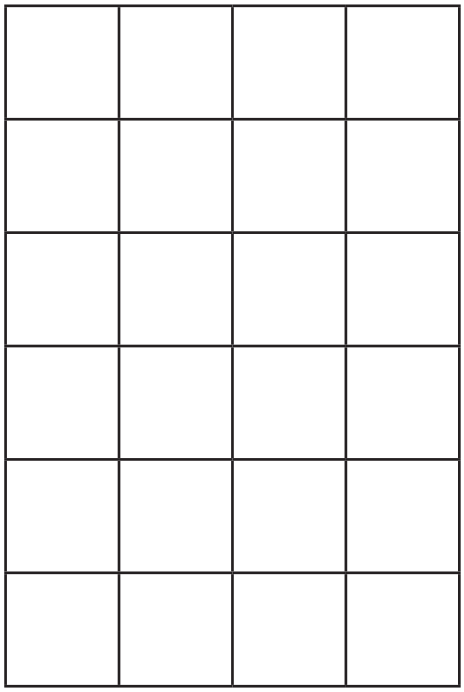
FACTORS AND MULTIPLES

Factors

What are the multiples of 24.

$24 = 6 \times 4$

Look at the block below



This rectangle has 24 blocks.

There are 4 columns each of 6 blocks

There are 6 rows of 4 blocks each

24 can be divided equally by 4 or by 6

4 and 6 are factors of 24.

Exercise 1

List the factors of the following

1). 12
2). 8
3). 10
4). 14
5). 36
6). 45
7). 56
8). 64
9). 72

Exercise 2

List the first three multiple for each of the following

1). 20
2). 25
3). 15
4). 30
5). 10

What is the next multiple of 9 after:

1). 81
2). 45

3). 18

4). 90

5). 36

EVEN AND ODD NUMBERS

Even numbers

The numbers that can be evenly paired are called even numbers. Look at the following

2, 4, 6, 8, 10, 12, 14, 16, 18, …

Add two more numbers to this pattern.

All even numbers can be evenly arranged in twos.

They can be divided without a remainder.

Example:

4 ÷ 2 = 2 16 ÷ 8 = 2 18 ÷ 2 = 9

Exercise 1

Which of the following are even numbers

1). 10

2). 9

3). 7

4). 4

5). 8

6). 15

7). 18

8). 21

9). 25

List all the even numbers between 10 and 40

Odd numbers

These are numbers that cannot be evenly arranged in twos.

When they are divided in twos. There is some remainder.

For example, 7 cannot be divided by two. 7, 5, 9 are odd numbers.

Exercise 1

1. List all the odd numbers between 10 and 30

2. List all the odd numbers between 40 and 50

3. Which of the following is an odd number

1). 13

2). 12

3). 15

4). 66

5). 100

6). 99

7). 101

8). 102

9). 112

UNIT 3: MEASUREMENTS

LENGTH

Take a rope and measure the lengths of the following objects and give answers to the nearest metre or centimetre:

The distance from your shelter to PLEFS

The PLEFS learning space

The PLEFS garden.

Your height

Your mathematics text book.

Changing cm to m

Example : Change 475 cm into metres.

100 cm = 1 metre

$$100 \overline{)\,475}\ 4$$

$$-400$$

$$75$$

$$= 4\frac{75}{100}$$

$$= 4.75\text{m or } 4\frac{3}{4}\text{m}$$

Change these measurements into metres:

(a) 14 cm (b) 35 cm

(c) 53 cm (d) 140 cm

(e) 780 cm (f) 340 cm

(g) 256 cm (h) 5. 01 cm

Exercise 3

Changing m to cm

Example : Change 5 metres into centimetres,

5m = (5 × 100)cm

= 500 cm

Change these measurements into centimetres:

(a) 8m (b) 1m

(c) 12m (d) 7m

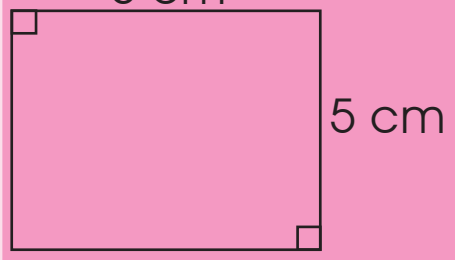
(e) 9m (f) 10

PERIMETER

Exercise 2

To measure the perimeter, you have to take the distance all the way round a figure.

Example, the perimeter of your cattle camp is the distance from one point, you go round the cattle camp until you get back where you started.



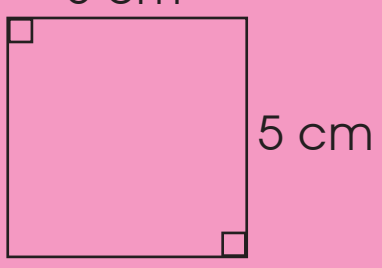
Perimeter = 2 (length + width)

= 2 (6 + 4) cm

= 2 ×10 cm

= 20 cm

Note: P= 2(L + W)



Perimeter = 2(5+ 5)

= 2 × 2 × 5

= 4 × 5

= 20

P =4S

2. Calculate the perimeter of squares whose sides are:

(a) 13cm

(b) 9cm

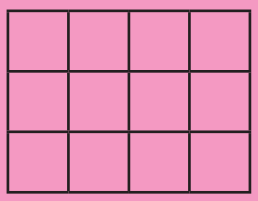
(c) 16cm

(d) 14cm

AREA

Rectangle

A



Squares along the length are 4

Squares along the width are 3

Area = 4 × 3 = 12 sq. units

B

Length = 4 cm

Width = 3cm

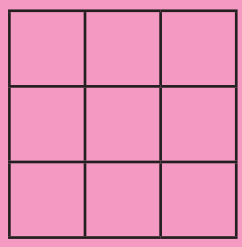
Area = L × W

= 4 cm × 3 cm

= 12 cm2

Square

A



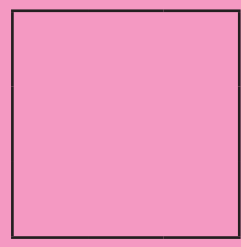
Squares along the side are 3

Squares along the other side are 3

Area = 3 × 3

= 9 sq. units

B



Side is 3 cm

Area = S × S

= 3 cm × 3 cm

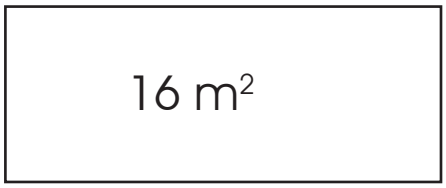
= 9cm2

Exercise 3

Finding the length or width

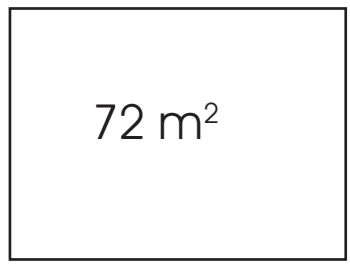
1. Find the width of figures A and B below:

A

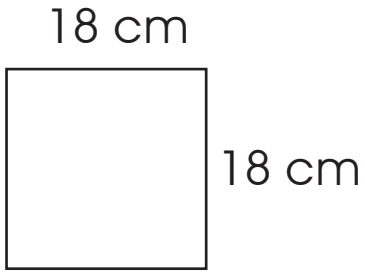


8 m

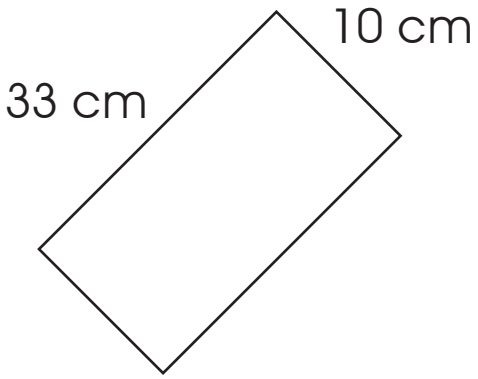
B



9 m



2. Find the area of the following figures in square centimetres (cm2)



Exercise 1 Exercise 3:

How many notes of 10 pounds in 50 pounds notes?

1. In 50 pounds notes there is _____ notes of 10 pounds.
2. Akoul went to the market and bought soap for SSP 10, salt for 5 SSP, How much money has he spent all together?
3. Wani sold one heap of bananas for 20 SSP and bucket of mangoes for SSP 30, How

much money has he earned altogether?

4. Add:

A.

Pound	Piaster's
6	30
+ 2	50

B.

Pound	Piaster's
50	10
+ 1	90

Answers for Exercise 3:

1) 5 notes

2) SSP 15

3) 50 pounds

4) A) 8 pounds and 80 piaster's

B) 7 pounds and 0 piaster`s

UNIT 4: TELLING TIME

TIME IN HOURS AND MINUTES

Exercise 1

1. Write down the time shown on each clock face in the long and short forms:
2. Draw clock faces to show:

   a). a quarter past two o'clock

   b). a half past three o'clock

   c). 4.10

   d). 10.45

   e). twenty five minutes to eleven.

Exercise 2

Time in a.m. and p.m.

1. Write down these times using a.m. and p.m.

(a) Half past 10 in the morning

(b) ¼ to 11 at night

(c) 3 o'clock in the afternoon

(d) 4 o'clock in the morning

(e) 5 minutes to 12 in the morning

(f) 4 o'clock in the afternoon

2. The time now is 8.00 a.m. Copy and complete the following statements:

After 1 hour the time will be 9.00 a.m.

After 2 hours the time will be _____

After 3 hours the time will be _____

After 4 hours the time will be _____

After 5 hours the time will be _____

CHANGING HOURS TO MINUTES

Change the following to minutes:

(a) 3 hours (b) 4½ hours

(c) 3¼ hours (d) 12 hours

CHANGING MINUTES TO HOURS

Change the following to hours:

(a) 240 minutes (b) 15 minutes

(c) 150 minutes (d) 405 minutes

3. Write down the times shown on the clock faces in Hindu/Arabic numerals, e.g.

(a) 2.30 (b) (c) (d)

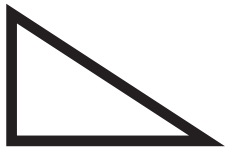
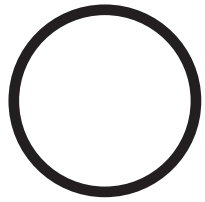


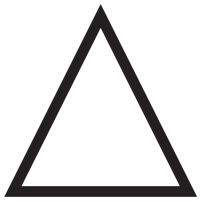
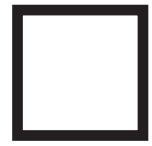

UNIT 5: GEOMETRY

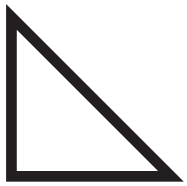
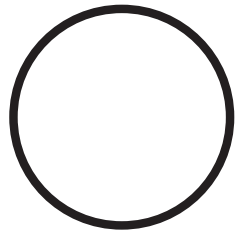
Exercise 1:

Write the names of these objects :

1.  2.  3.  4. 

5.  6.  7. 

8.  9.  10. 

11.  12. 

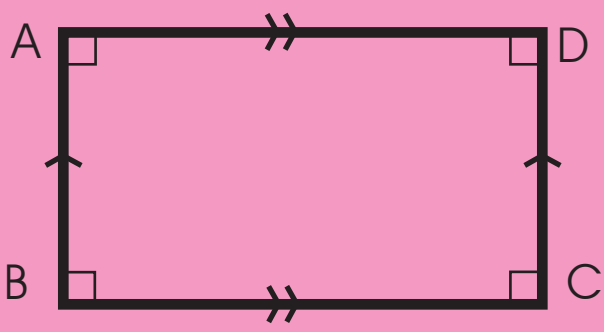
Answers:

1. Triangle 2. Rectangular 3. Oval 4. Square 5. Triangle 6. Cycle 7. Rectangular 8. Triangle 9. Rectangular 10. Rectangular 11. Triangle 12. Cycle

RECTANGLE

Measure the sides and angles of this rectangle and fill in the blank spaces.

Sides Angles



AB = __cm CD = __cm ABC = __ BCD = __

BC = __cm DA = __cm CDA = __ DAB = __

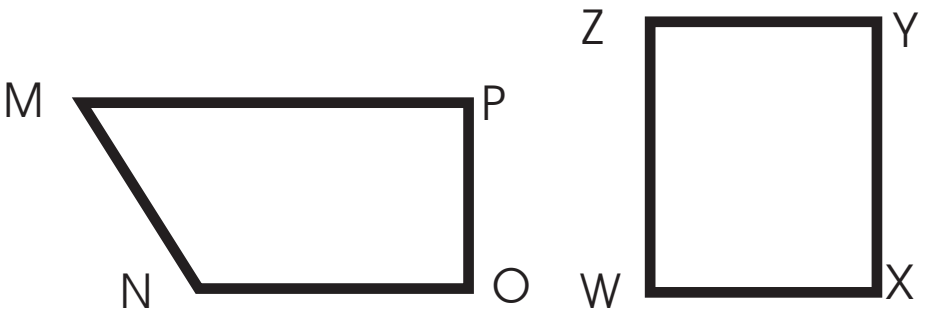
For a rectangle:

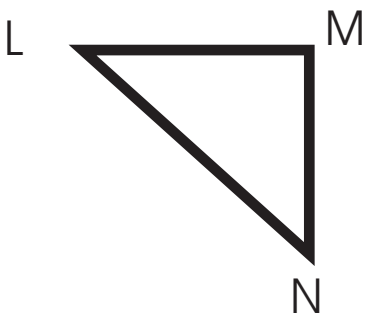
(a) Two opposite sides are equal.

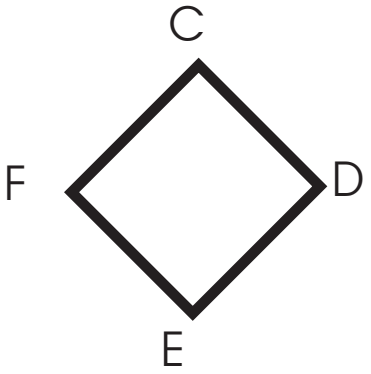
(b) All angles are right angles (90°)

(c) Opposite sides are parallel.

Which of these figures are rectangles?





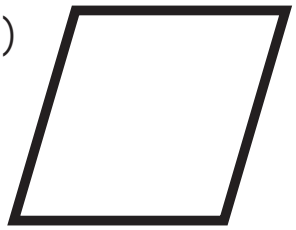


Which of these diagrams are:

Squares?

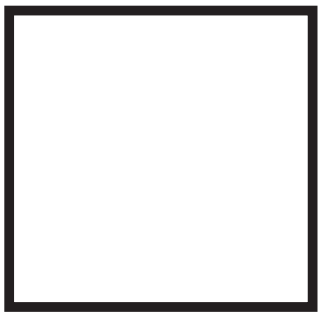
Rectangles?

(i)



(ii)

(iii)



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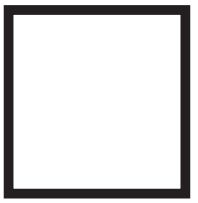

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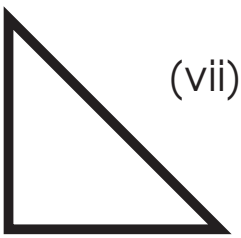

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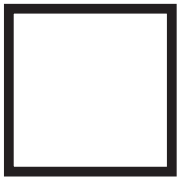

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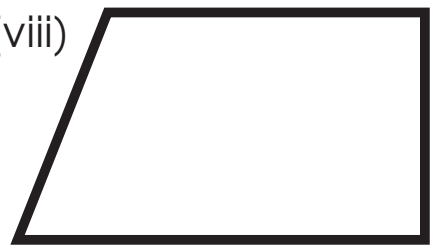
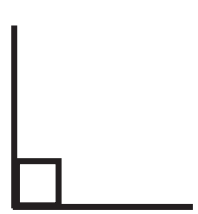
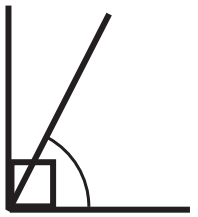


TYPES OF ANGLES



A

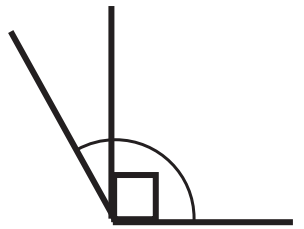
RIGHT ANGLE



B

ACUTE ANGLE

(smaller than right angle)



C

OBTUSE ANGLE

(Bigger than right angle)

STRAIGHT LINE

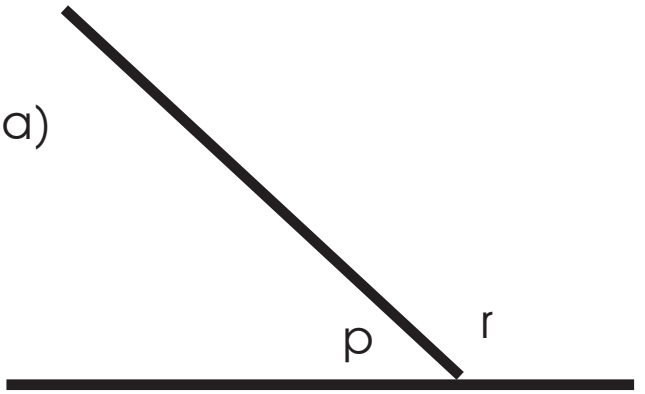
(2 right angles)

REFLEX ANGLE

Bigger than 180º)

2. Measure the angles shown in the figures below:

(a)

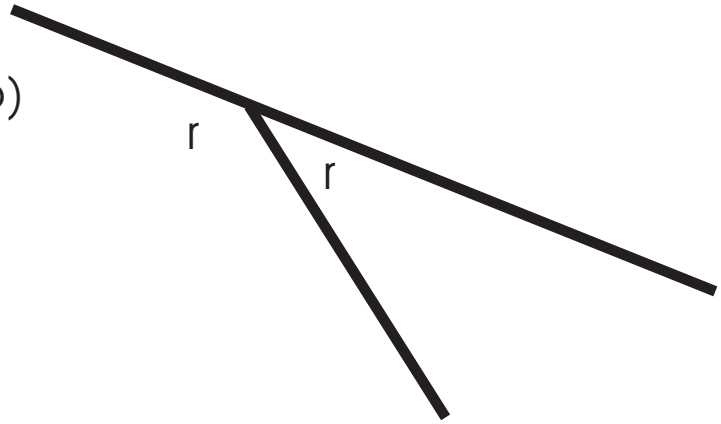


(a) p =

r =

p + r =

(b)

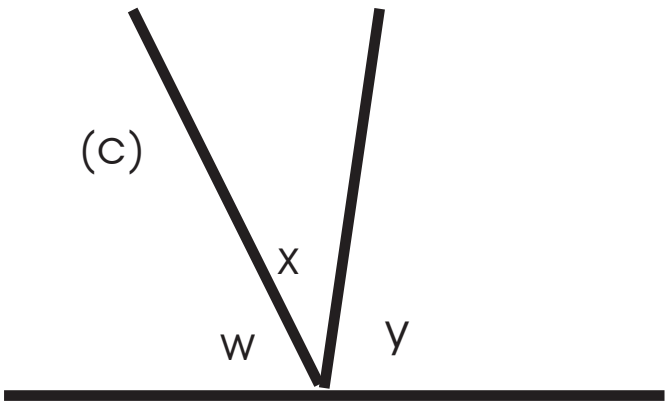


(b) s =

t =

s + t =

(c)



(c) w =

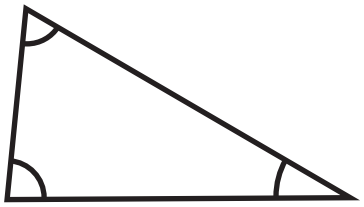
x =

y =

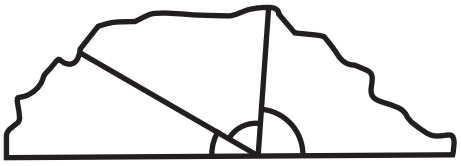
w + x + y =

ANGLE SUM OF A TRIANGLE

(i)

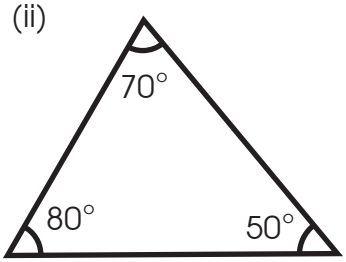


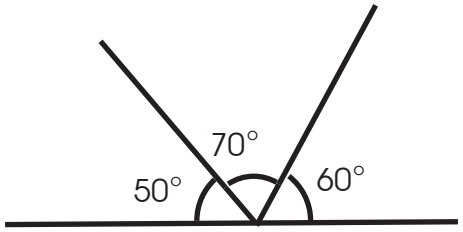
Cut angles a, b, and c and arrange them as shown below.



$a^\circ + b^\circ + c^\circ$ make a straight line $a^\circ + b^\circ + c^\circ$ _____$^\circ$

(ii)





$50^\circ + 70^\circ + 60^\circ = 180^\circ$

The sum of the angles of a triangle is 180°

Calculate the sizes of the angles marked by small letters: