Grade 7

Mathematics

Unit – 01

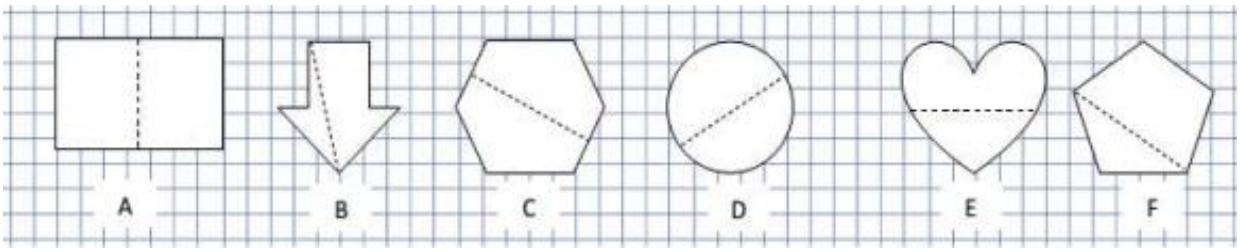
01. Symmetry

1. Define bilateral symmetry.

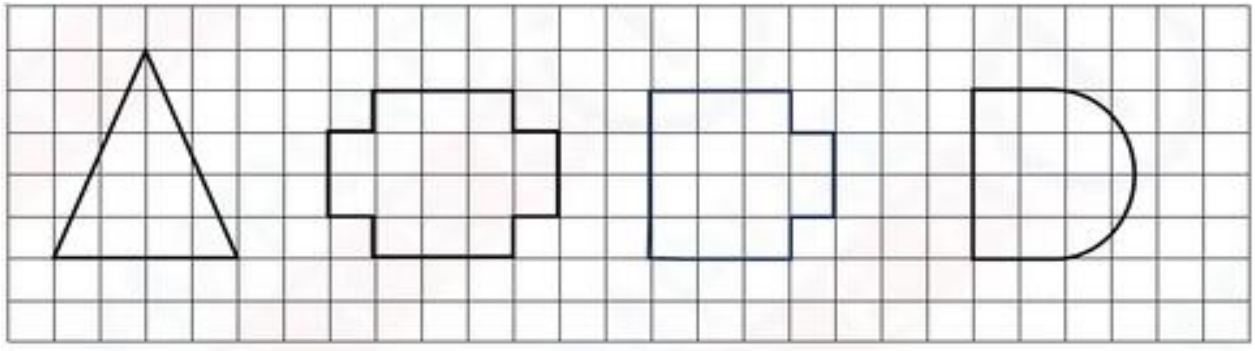
2. Explain what is meant by a symmetric axis.

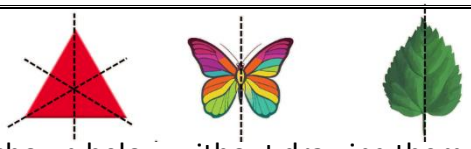
3. Using paper, cut and paste two figures that exhibit bilateral symmetry. Indicate and label the axes of symmetry for these figures.

4. From the figures below, identify the bilaterally symmetric shapes and mark their axes of symmetry. Write down the corresponding letters of these shapes.

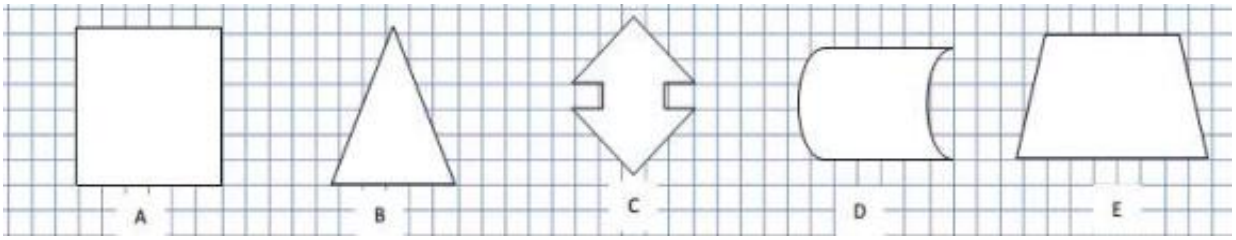


5. Draw the axes of symmetry, each of the given figures below.

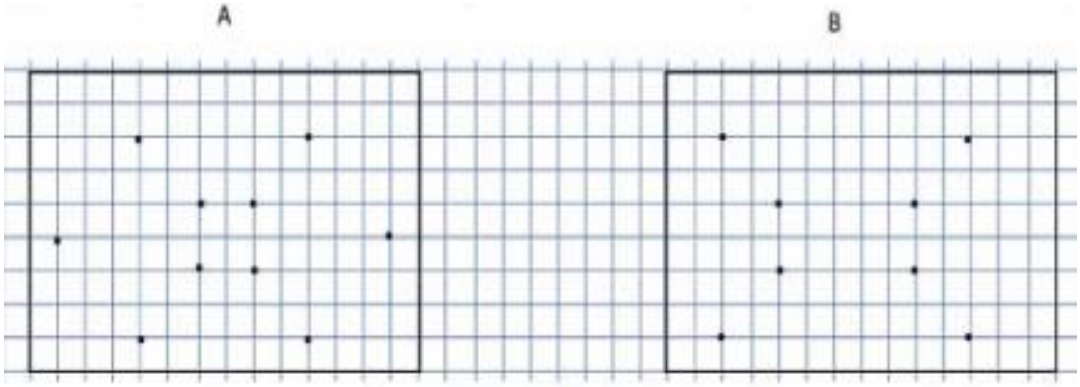




6. Determine the number of axes of symmetry for each figure shown below without drawing them



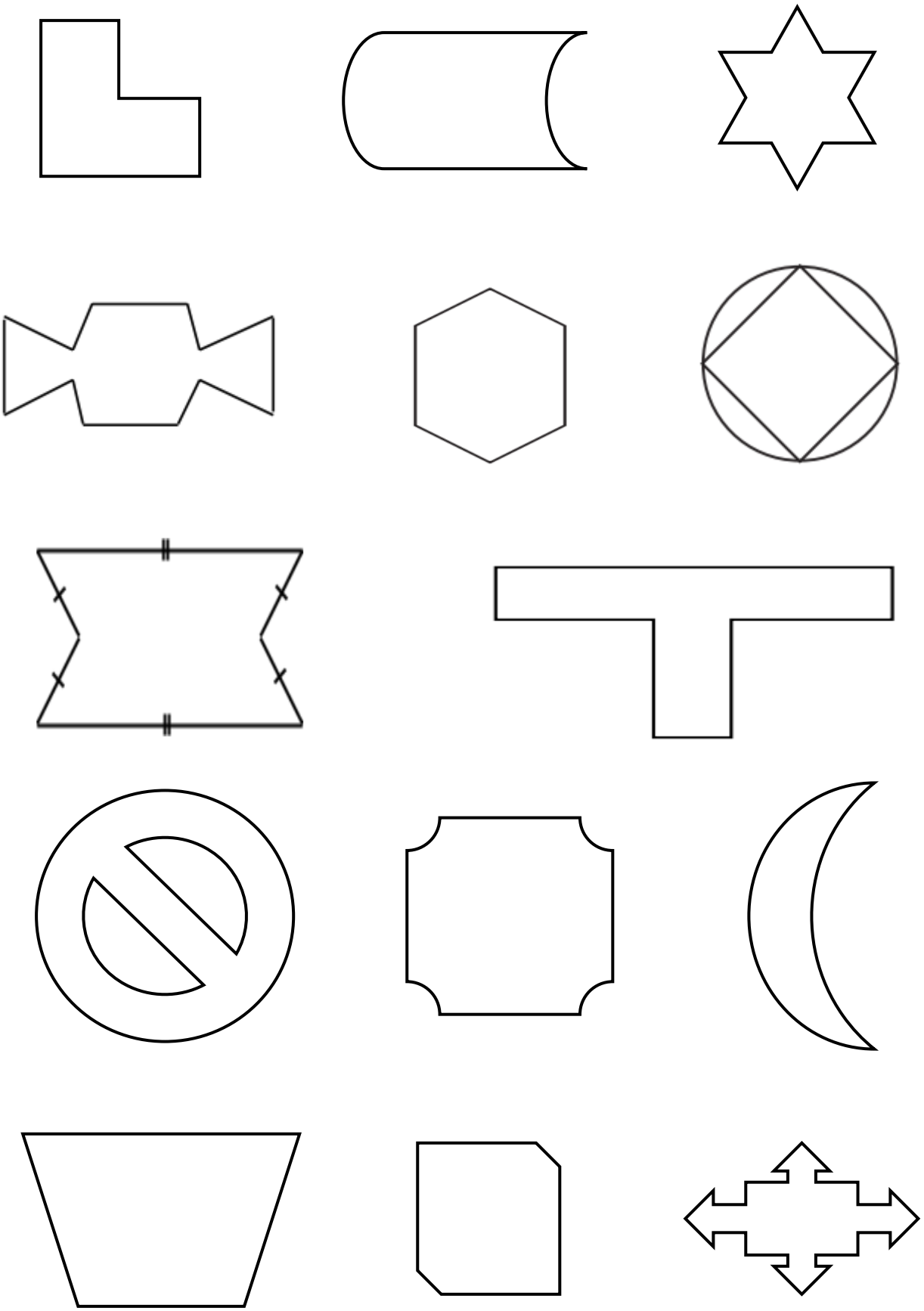
7. By using the given points create a figure with bilateral symmetry



8. complete the following figures so that you obtain a bilaterally symmetric figure

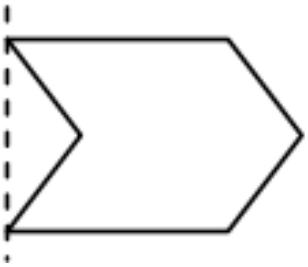
9. Find the number of symmetric axes of the given figures.

10. Draw all the axes of symmetry of each of them.



❖ Past paper questions (Symmetry)

01. The dotted line indicates the axis of symmetry. Draw and complete the bilaterally symmetric figure



02. If the following statements are true put (√) and if they are false put (x) in front of the each statement.

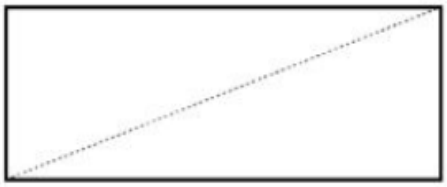
a) In a bilaterally symmetric figure, the two parts on either side of an axis of symmetry are equal in shape and in area. (……)

b) When you fold a plane figure along a straight line, if the two parts obtained are equal in area but does not coincide, the folded line is called the axis of symmetry (…….)

c) Number of axes of symmetry in a square and a rectangle are equal. (…….)

d) There will be 2 axes of symmetry in a bilaterally symmetric figure. (…….)

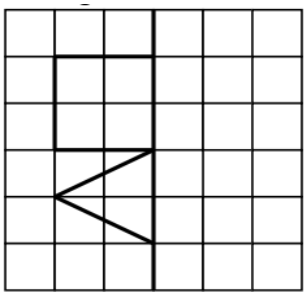
03. The given rectangle is fold along the dotted line.

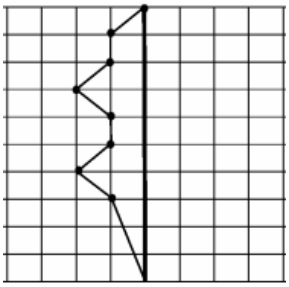


a). Is this line an axis of symmetry of the given rectangle? Give reasons

b). Is this rectangle bilaterally about this line? Explain your answer giving diagram.

04. Following is a part of a symmetric figure which was drawn on the square grid. Complete the other part of it.





05. Draw two bilaterally symmetric figures such that each figure has only 2 axes of symmetry and mark the axes of symmetry.

06. Draw two bilaterally symmetric figures such that each figure has only 4 axes of symmetry and mark the axes of symmetry.

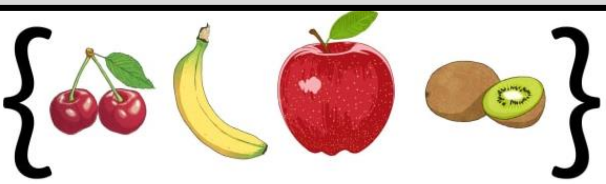
07. Create various bilaterally symmetric plane figures by cutting out folded paper as well as by placing drops of paint on folded paper then Prepare an attractive wall decoration using the symmetric figures that you created.

Grade 7

Mathematics

Unit – 02

02. Sets



01. What is a set?

02. Place a (√) next to each of the expressions which clearly define a set, and a (X) next to those which do not clearly define a set

i. Provinces of Sri Lanka ( )

ii. Talented students of singing ( )

iii. People who are fortunate ( )

iv. Vowels in English ( )

v. Letters of the word 'Monaragala' ( )

vi. Days of the week ( )

vii. Tall people in the class ( )

viii. Prime numbers less than 20 ( )

ix. Interesting books in the library ( )

x. Capital cities of Europe ( )

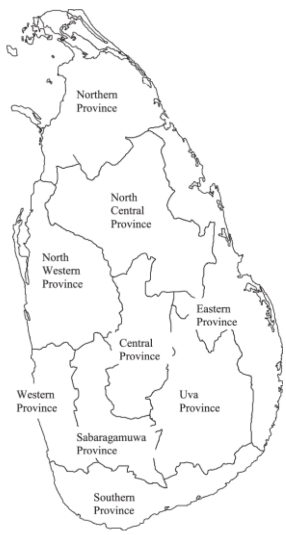
xi. Good movies from the 1990s ( )

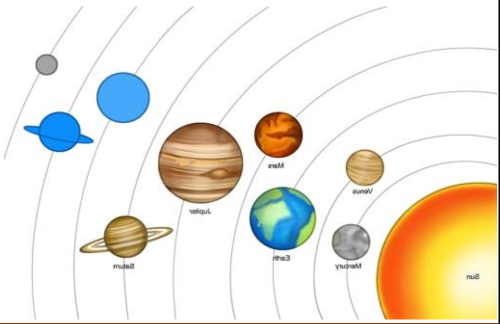
xii. Beautiful flowers ( )

xiii. People who are happy ( )

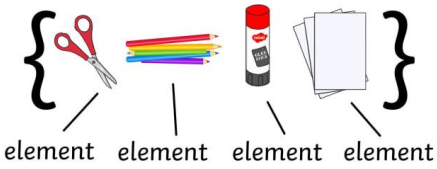
xiv. Planets in the solar system ( )

xv. Composite numbers 50 to 100 ( )





03. What is an element of a set?



04. Fill in the blanks.

i. A set writes within a .....

ii. ..... is used to name a set.

iii. An element appears several times within a set, it is written only .....when it is written as an element of a set.

iv. .....is used to separate the elements of a set.

v. Venn diagrams were introduced by .....

05. Write down the following sets in terms of a common property of its elements can be clearly identified.

i. 2, 4, 6, 8, 10

ii. Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday

iii. Colombo, Kalutara, Gampaha

06. Express each of the following sets by writing all the elements of each sets within curly brackets.

i. Letters of the word ' Kurunegala '

ii. Digits of the number 198 327 273

iii. Square numbers between 1 & 30

07. Represent following sets in the Venn diagrams.

i. Letters of the word ' anuradapura '

ii. Multiples of 5 less than 20

iii. Districts of the central province

08. A= { 3, 6, 9, 12, 15,18 } ,

i. Write down the set A in terms of a common property of its elements can be clearly identified.

ii. Represent the set A in the Venn diagrams.

09. B={ Triangular numbers less than 15 } ,

i. Represent the set B in the Venn diagrams.

ii. 9 is not an element of this set . This statement is true or false? Give the reason for your answer.

❖ Past paper questions (Sets)

01. X = {Digits of the number 127 532 } Y = {Prime numbers less than 10 }

Kasun says that the elements of the set X and the elements of the set Y are identical.
His statement is true or false?
Give the reason for your answer.

02. Refer the given set and answer the questions related to it.

L = { Letters of the word “WOOD APPLE”}

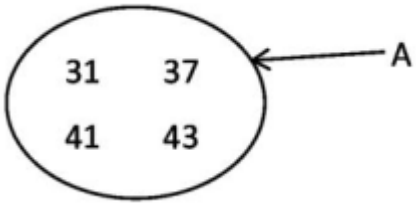
i) Write down the elements of the above set with in double brackets.

ii) How many elements are there in the set?

iii) Write the letters which has symmetric axes are there in the set?

iv) Represent the set L in Venn diagram.

v) The set A has been represented by a Venn diagram.



Write down the set A in terms of a common property of its elements by which the elements can be clearly identified

03. (a) Place a (√) next to each of the expressions which clearly define a set and a (x) next to those which do not clearly define a set.

(i) Students who obtained more than 40 marks for mathematics in last term test 2025 ( )

(ii) Talented singers ( )

(iii) Beautiful flowers ( )

(iv) Prime numbers between 10 and 20. ( )

(b) A = { Prime numbers between 0 and 10 }

(i) Express the set A by writing all the elements of the set within curly brackets.

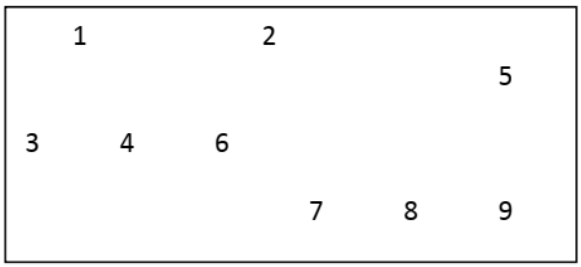
(ii) Express set a by A Venn diagram

(C) Express each of following sets by writing all the elements of each set within curly brackets.

(I) P = { Districts of the Sabaragamuwa Province }

(II) Q = { Square numbers between 0 and 10 }

04. I) Write 3 sets as a list of elements by using above numbers. (03 marks)



II) Write above sets by using special characteristic of the sets. (05 marks)

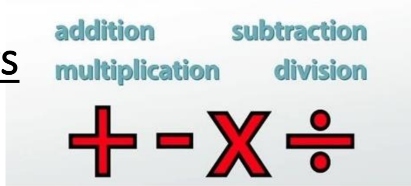
III) P = {5, 10, 15} Write set P by using other 2 methods. (02 marks)

Grade 7

Mathematics

Unit – 03

03.Mathematical Operations On Whole numbers



01. For each of the following numerical expressions, write down the mathematical operations in the order in which they appear.

i. $15 + 6 - 4$

ii. $16 - 10 + 4$

iii. $2 \times 4 + 14$

iv. $9 + 4 \times 4$

v. $22 \div 2 - 1$

vi. $8 + 4 \div 2$

02. Place a '✓' next to the correct statements and a 'X' next to the incorrect statements.

i. $6 + 5 - 3 = 10$ (   )

ii. $15 - 8 + 4 = 3$ (   )

iii. $20 - 8 \times 2 = 14$ (   )

iv. $20 - 10 \div 5 = 18$ (   )

v. $20 \div 10 + 5 = 7$ (   )

vi. $5 \times 10 \div 2 = 20$ (   )

03. Simplify.

i. $15 + 1 + 6$

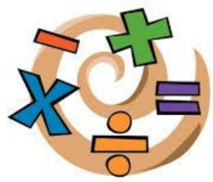
ii. $18 + 6 - 8$

iii. $8 \times 4 + 7$

iv. $3 \times 15 - 18$

v. $28 \div 4 + 21$

vi. $55 \div 5 - 9$



vii. $18 + 4 \times 2 - 9$

viii. $14 - 8 + 4 - 2$

04. Simplify.

i. $50 \div 5 + 21$

ii. $14 + 20 \div 2$

iii. $50 \times 2 \div 20$

iv. $48 \div 4 \times 3$

v. $225 - 24 \times 50 \div 10$

vi. $10 \div 5 + 4 - 1$

05. Simplify.

i. $(4 \times 5) - 12 + 8$

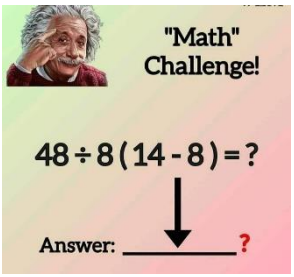
ii. $20 - (4 + 1)$

iii. $60 \div (22 + 3 - 10)$

iv. $105 + 2(27 \div 3 - 4)$

06. The pens in six boxes, each contains 12 pens, to be divided equally among 9 students. Write down an expression for the number of pens received a student, and simplify it?

07. The charge for a newspaper advertisement is such a way that the charge for the first10 words is Rs.60.00 and Rs.5 for each additional word. Find the total cost for an advertisement having 60



08. Simplify.

i. $50 \div (5 \times 5) + 8$

ii. $(50 \times 8) \div 100 - 2$

iii. $400 - 30 \times 10 - 25$

iv. $60 \div (20 + 10) \times 3$

v. $2(50 \div 10) \times 12 + 6$

vi. $3(3 + 5) \times 10 - 102$

09. The box contains 12 blue pens and 13 black pens. To find the total number of pens contained in seven such boxes,

i. build up a numerical expression.

ii. Solve above expression and find the number of pens.

10. At the computation of the electricity bill Rs. 5.00 each charge for first 100 units and Rs. 8.00 each for the excess. If a certain house used 112 units, compute the monthly electricity bill

i. Express as a numerical expression.

ii. Simplify the expression.

❖ Past paper questions (Mathematical Operations)

01. (a) Simplify

(i) 5 + 2 x 5 (ii) 12 ÷ 4 x 2 (iii) 18 ÷ 6 – 2

(iv) Nimal said " the answer of simplifying the expression " 5 + 3 x 2 is 16. Do you agree with that statement ? Give reasons.

(b) When Kamani make a call for her father in abroad, it costs Rs. 11 for the first minute and Rs. 5 per minute thereafter. Write down an expression for the cost of a 20 minutes long call. Simplify your expression.

02. i. Simplify

a. $225 - 24 \times 50 + 10$ b. $100 \div 4 + (12 \div 3 \times 2)$

ii. A man had a land of 100 perches. He gave 20 perches to his daughter and from the remaining land. He gave 10 perches each per his 3 sons and the remainder was given to an orphanage.

a. Write expression for find the extent of land given to orphanage.

b. Calculate the extent of land given to the orphanage.

03. At the computation of the electricity bill Rs. 5.00 each charge for first 100 units and Rs. 8.00 each for the excess. If a certain house used 112 units, compute the monthly electricity bill,

a) Express as a numerical expression.

b) Simplify the expression.

04. Simplify

a). (i) 36 ÷ 6 ÷ 3 (iii) 7 + 18 ÷ 6 – 2

(ii) 5 x 6 ÷ 3 (iv) 105 + 2 (27 ÷ 3 – 4) (4 x 2 = 8 Marks)

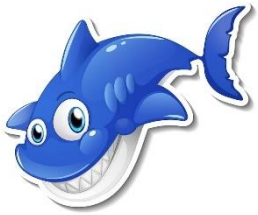
b). The pens in six boxes, each contains 12 pens, to be divided equally among 9 students. Write down an expression for the number of pens received a student, and simplify it?

(2 Marks)

05. The permanent charge for a taxi is Rs. 100. For each travailing kilometer Rs. 50 is Charged.

i. Write an algebraic expression for a person who hired this taxi for 6 Km

ii. By solving this expression find the amount he has to pay.

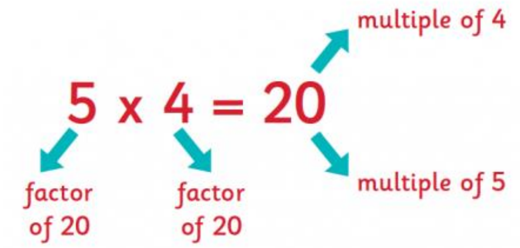


Grade 7

Mathematics

Unit – 04

Factors & Multiples I



01. Complete the table below using the rules of divisibility.

	Number	Is the number divisible by 2?	Is the number divisible by 5?	Is the number divisible by 10?
i.	40			
ii.	135			
iii.	450			
iv.	2340			
v.	9786			
vi.	1005			
vii.	46056			
viii.	43000			
ix.	60368			
x.	20090			

02. Find the digital root of each number given below..

i. 47 ii. 164 iii. 8321 iv. 50 046

v. 12 097 vi. 56 482 vii. 406 970 viii. 680 097

03. Fill in the blanks

i. If the digital root of a number is ....., Then it is divisible by 9 without a remainder.

ii. If the digital root of a number is ....., Then it is divisible by 3 without a remainder.

iii. If a number is divisible by both ..... and ....., Then it is divisible by 6 without a remainder.

iv. If the last two digits of a whole number consisting of two or more digits is....., then it is divisible by 4 without a remainder.

04. Without dividing, select and underline the numbers which are divisible by 9 without a remainder.

i. 72 ii. 405 iii. 5854 iv. 33075 v. 4080

05. Without dividing, select and underline the numbers which are divisible by 3 without remainder

i. 45 ii. 5390 iii. 4037 iv. 6000 v. 7356

06. Without dividing, select and underline the numbers which are divisible by 6 without a remainder.

i. 96 ii. 165 iii. 9452 iv. 1224 v. 1854

07. Without dividing, select and underline the numbers which are divisible by 4 without a remainder.

i. 74 ii. 236 iii. 768 iv. 4484 v. 8052

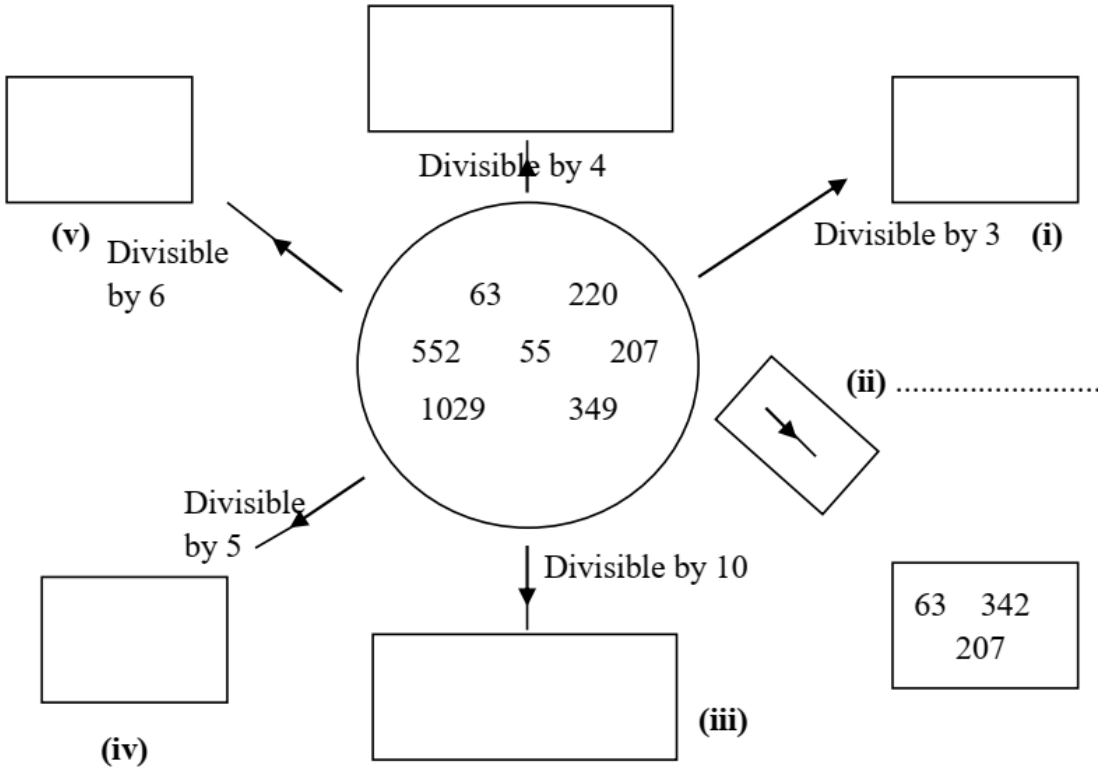
08. Following numbers are divisible by 3, Suggest a digit suitable for the empty space.

i. 78☐ ii. 9☐82 iii. 9☐82 iv. 9☐82

09. Find the largest number which divides 34 and 51?

10. A drill team arranges themselves in lines of 5 members each and lines of 6 members each. They also form circles of 10 members each. If the drill team must have more than 250 members, use the divisibility rules to find the minimum number of members that could be in the team

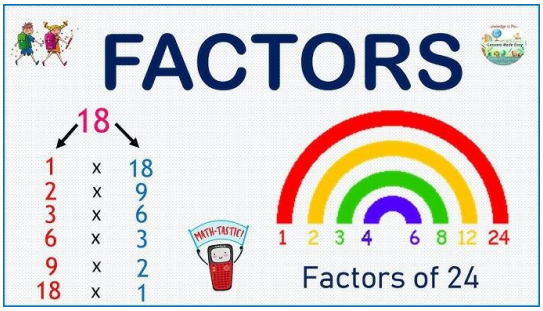
11. Fill in the blanks



12. a). A number can be divided by nine. Write the digital root of that number?

b). Six divide the number 52☐ write the suitable digit for the empty space.

c). “A whole number can be dividing by six if it is only an even number” are you agree with the statement. Give the reason.



Factors and Multiples II

01. Fill in the blanks.

a. When a whole number is written as a product of two whole numbers, those two numbers are known as.....of the original number.

b. The prime numbers among the factors of a number are its .....

c. When a whole number is multiplied by another whole number, ... of that number can be obtained.

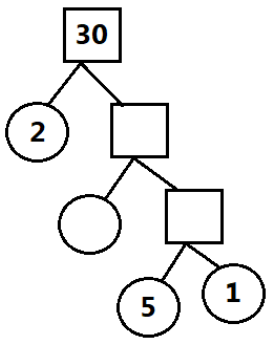
02. Find the factors of each of the following numbers

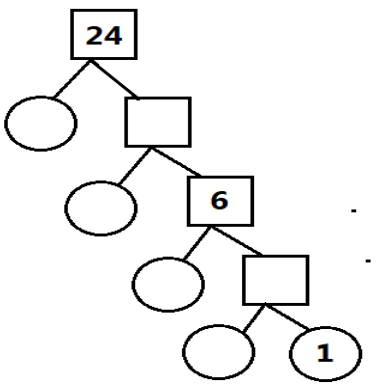
i. 52 ii. 90 iii. 86 iv. 100

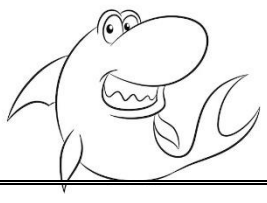
03. Write down first 5 multiples of each of the following numbers

i. 13 ii. 25 iii.46 iv. 95

04. Complete the charts given below.







05. Express each of the following numbers as a product of its prime factors

i. 15

ii. 28

iii. 36

iv. 66

v. 78

vi. 102

06. Find the prime factors of each of the following numbers.

i. 18

ii. 42

iii. 60

iv. 105

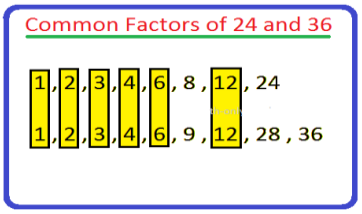
v. 120

vi. 147

07. Find eight factors of each of the following numbers by considering their prime factors.

i. 48 –

ii. 60 –



iii. 112 –

08. Fill in the blanks.

i. The highest factor, out of the common factors of two or more numbers is called . ..... of the given numbers.

ii. The highest common factor of ..... is 1.

iii. The smallest of the common multiples of two or more numbers is called the .....of the given numbers.

09. Find the HCF of each of numbers given below.

i. 8 , 12 ii. 30 , 42 iii. 48 , 80

10. Find the HCF of each of numbers given below.

i. 10 , 12 , 18 ii. 24 , 42 , 30 iii. 18 , 54 , 45

iv. 45 , 60 , 90 v. 64 , 96 , 32 vi. 28 , 35 , 42

11. Find the LCM of each of the following numbers

i. 6 , 8 ii. 12 , 18 iii. 24 , 60

iv.. 10 , 12 , 18 v. 7, 10 , 14 vi. 15 , 20 , 30

12. a. Write 5 multiples of 2.

b. Write 12 as a product of two prime factors.

c. Find H.C.F. of 6,12,18

d. Find the L.C.M of 4,12,18

13. Bells of 3 clocks ring at intervals of 4 minutes, 8 minutes and 12 minutes respectively. If they all ring together at 4.00 a.m, at what time will they ring together again?

14. Wikum takes 2 types of tablets for his illness. He takes these tablets once in 4 hours and 5 hours respectively. If he takes these two tablets at 7.00 a.m., what is the time he will take these two tablets again at once?

15. A doctor recommended 3 types of tablets for a child. He has to take it 3 hours , 6 hours and 8 hours respectively. If he took all the three types of tablets at 8.00 a.m, after how many hours will he has to take all the three tablets at once?

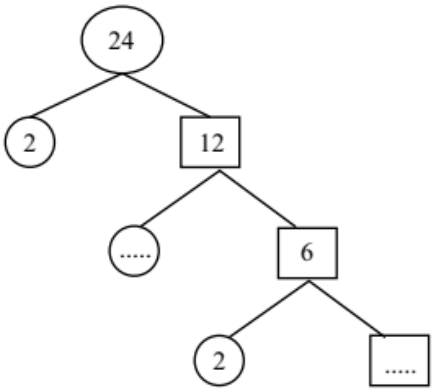
16. Two buses leave a station every 18 minutes and 24 minutes. If they leave together at 8:00 a.m., when will they next leave together?

17. A clock chimes every 30 minutes, another every 45 minutes, and a third every 60 minutes. If they chime together at noon, at what time will they chime together again?

18. A student studies math every 2 days, science every 3 days, and English every 4 days. If he studies all three subjects on Monday, on which day will he study all three subjects again?

❖ Past paper questions (Factors and multiples)

01. (a) Complete the following diagram using your knowledge about factors.



(b) (i) Express 36, 48, 60 as a product of prime factors.

(ii) Using the answers of above (i) find the HCF of 36, 48 and 60

(iii) There is a pandol with blue, red and yellow bulbs light up at intervals of 2 , 3 , 4 seconds respectively. At the begining, all the bulbs light up together, How long does it take all the bulbs to light up together again ?

02. a). 24 , 36 , 48

i. write above numbers as a product of prime number

ii. find the. H.C.F. of 24 , 36 , 48

iii. find the L.C.M. of 24 , 36 , 48

b). There are two towns named A and B. Once in every 12 minute a bus stared from town A and once in every 15 minutes a bus started from town B. If there are two buses started 8.00 A.M from both A and B, at what time two buses started again from both A and Bat once.

03. (i) Write down the first two multiples of 24. (1 mark)

(ii) Find four factors of 24. (2 marks)

(iii) (a) Express 60 as a product of prime factors. (2 marks)

(b) Find prime factors of 60. (1 marks)

(iv) 12, 18, and 30 are written as a product of prime factors as follows.

12 = 2×2×3

18 = 2×3×3

30 = 2×3×5

Using the above product of 12, 18 and 30, find

(a) H.C.F.

(b) L.C.M. (02×02 = 04 marks)

04. i) Find a suitable number in the blank such that the number is divisible by a without any remainder.
234……..6

ii) Find the H.C.F of the given by writing as a product of prime factors.
128, 64, 80

iii) Calculate the L.C.M of the given number 12, 8 and 28

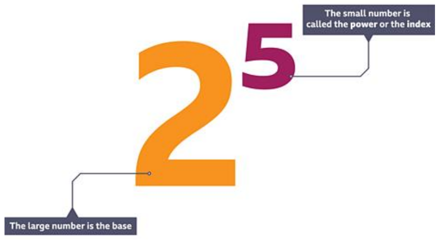
iv) In a certain country, house representatives are elected every 3 years and the president is elected every 5 years. Both will be elected in 2016, when will they be elected together after 2031?

Grade 7

Mathematics

Unit – 05

05. Indices



01. Write down each of the following products using index notation.

i. $5 \times 5 \times 5 \times 5$ ii. $2 \times 3 \times 3 \times 3 \times 2 \times 2 \times 2$

iii. $3 \times 3 \times a \times a \times a \times a$ iv. $2 \times 2 \times 2 \times 3 \times 3 \times p \times p \times p$

v. $m \times n \times n \times n \times m \times m \times m$ vi. $5 \times x \times z \times x \times y \times z \times 5$

02. Expand each of the following as a product

i. a^3 ii. $p^2 \times q^3$ iii. $2^2 \times m^3 \times n^1$

03. Expand each of the following as a product and find the value of the given expression

i. 2^3 ii. $5^2 \times 3^2$ iii. $6^2 \times 2^3 \times 3^1$

04. Fill in the blanks in the following table

Number	Index Notation	Base	Index	How the index notation is read
81	9^2		2	Nine to the power two
64		4		
	8^3			
				Seven to the power four
	2^5			
		6	3	
				Five to the power five

05. i. Write 125 in index notation with 5 as the base.

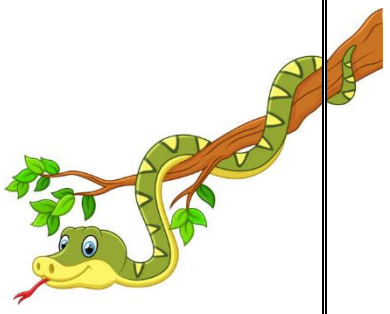
ii. Write 64 in index notation with 8 as the bas

iii. Write 243 in index notation with 3 as the base.

iv. Write 147 in index notation with 7 as the base.

06. Write each of the following numbers as a product of powers with prime numbers as bases.

i. 48 ii. 108



iii. 225 iv. 540

07. Expand and write each of the following expressions as a product

i. $2x^3$ ii. $5x^3y^2$ iii. 5^2x^2

iv. $2^2x^3y^2$ v. $(2ab)^3$ vi. $(3 \times x \times y)^2$

08. Find the value of each of the following expressions by substituting a = 5

i. $7a$ *ii.* $3a^3$ *iii.* 4^2a^3

09. Find the value of each of the following expressions by substituting $x = 2$ and $y = 5$

i. $3xy^2$ *ii.* $7x^3y$ *iii.* $2^2\ x^4y^3$

10. Find the value of each of the following expressions by substituting $p = 3$ and $q = 2$

i. $2p - 3q$ ii. $24 - p^2q$ iii. $3(7 + p^2q^2)$

❖ Past paper questions (Indices)

01. a). Fill in the blanks with suitable digits.

$64 = 2^{\square} = 4^{\square} = \square^2$ (06 marks)

b). If x=2 and y=3 find the value of the following expressions.

I) $2x^2y$ II) $3xy^2$ (04 marks)

c). Expand the given expressions.

I) $2^3m^2n^3$ II) a^3b^4 (02 marks)

02. a) Fill in the blanks using the suitable numbers or unknown terms.

(i) $3 \times \square x \times a \times a \times a = 15a^3$ (01 mark)

(ii) $2 \times \square \times y \times y \times \square = 10y^3$ (02 marks)

b). Write down $12x^2y^3$ in expanded form. (02 marks)

c). When a = 3 and b = 5, find the value of each of the followings.

(i) a^2b^2 (03 marks)

(ii) $2a^2 \times 3b$ (03 marks)

03. i). Expand p^2q^3 (02 marks)

ii). Write the following expression using index notation 7 x y x y x y (02 marks)

iii). Write 27 in index notation with 3 as the base. (02 marks)

iv). Write down the 45 as a product of powers with prime numbers as bases. (02 marks)

V). Find the value of p^2q^3 when p=3 and q=2 (02 marks)

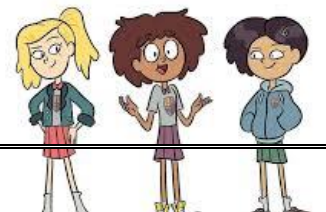
04. i). Express 81 as a power with base 3. (02 marks)

ii). Write the power, where index is 5 and base is 2 (02 marks)

iii). Expand and find the value of the above power. (02 marks)

iv). When P = 2 and q = 3, Find the values of the following expressions. (04 marks)

(a) $2P^3q^2$ (b) P^2q



Grade 7 **Mathematics** Unit – 06

06. Time

01. Define the " Decade "

02. Define the " Century "

03. Define the " Millenium "

04. AD 1506.

i) To which millennium does it belong?

ii) To which Century does it belong?

iii) To which decade does it belong?

05. Complete the table .

Year (AD)	Decade	Century	Millennium
2016			
1954			
2000			
1705			
1453			
248			
1818			
547			
1660			
2025			

06. AD 2014.

i) To which millennium does it belong?

ii) To which Century does it belong?

iii) To which decade does it belong?

07. Write the first date and the last date of the 201th Decade

08. Write the first date and the last date of the 21nd century..

09. Write the first date and the last date of the 2nd Millennium?

10. Choose the leap years from the years given below.

i. AD 1880 ii. AD 1900 iii. AD 1532

iv.. AD 1653 v. AD 1530 vi. AD 2024

iv.. AD 1856 v. AD 1400 vi. AD 2014

11. Indicate the following days in months and days

i. 115 days

ii. 200 days

iii. 97 days

iv. 322 days

v. 286 days

12. Simplify the followings

i.

Months	Days
6	22
+ 3	14

ii.

Months	Days
10	20
+ 4	10

iii.

Months	Days
8	24
+ 10	29

iv.

Years	Months	Days
5	4	28
+ 7	5	4

v . .

Years	Months	Days
10	9	20
+ 4	7	22

13. Simplify the followings

i.

Months	Days
8	20
− 3	14

ii.

Months	Days
10	15
− 5	20

iii.

Months	Days
14	4
− 10	29

iv.

Years	Months	Days
8	4	10
−	8	27

v . .

Years	Months	Days
17	0	13
− 4	10	22

14. i. Write 265 days in months and days.

ii. Pramuditha's date of birth is 2013-09-07. His sister is 2 years 6 months and 3 days younger to him. What is sister's date of birth?

15. Shiromi's sister Nayomi is 2 years, 5 months and 12 days elder to Shiromi. Nayomi's friend Pubudu is 3 years, 2 months and 17 days younger to Nayomi. If Shiromi's date of birth is 2002-08-20,

i. Find the date of birth of Nayomi.

ii. Find the date of birth of Pubudu.

iii. Out of these 3 children whose birthday falls on a leap year?

16. On an old building in the school recorded that Gajaba college was started on 1823-01-02. The current principle of the school, Mr. Pathiraja was bom in 1957-10-20.

    i. Write down the decade of the school started?

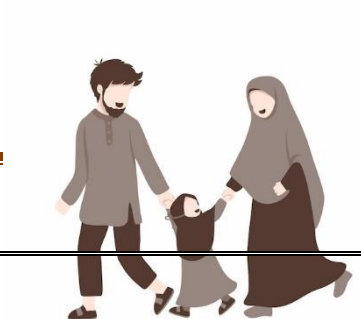
    ii. What is the century of Mr. Pathiraja's birth year.

    iii. Write the leap year that is very closest to the AD 1823.

    iv. What is the starting date of the 20th century?

17. Fathima's birthday is on 2012-07-05. Her mother's birthday is on 1980-04-01 and her father is elder 02 years 03 months and 14 days than her mother .

    i. Find how much older mother to Fathima



ii. What is the birthday of her father?

18. The annual sport meet of Royal College was held on 2nd of February 2025.

i. Write down the above date in the standard form.

ii. The sport meet was held from 1.30 pm to 6.45 pm. Express the duration of the sport meet in hours and minutes.

iii. Nipun says that AD 1896 is a leap year but AD 1900 is not a leap year. Is this statement true or false? Give reasons.

iv. What is the name given to the time period from AD 2001 to AD 2100.

19. i. . A child went to school for 2 years 9 months 21days by van and 5 years 11months 18 days by bus. Find the total time he traveled by the bus and the van

ii.. The age of a child on the date 2018.02.15 is 5 years 11 months and 18 days.

What is his date of birth?

iii. A tree which grows at a uniform speed, grow 3 cm per day. What will be the heigh of this tree after a leap year? Write the answer in meters.

20. Chamika's date of birth is 2009 - 04 - 25 . What is him age on 2025 - 01 – 01 ?

❖ Past paper questions (Time)

01. I. To which decade does AD 2019 belong ? (02 marks)

II. Write the first and last years of the 19th century. (02 marks)

III. Manuka Said that ' AD 1800 was a leap year' state whether the answer is correct or Wrong. Give reasons for your answer. (02 marks)

IV. Simplify (04 marks)

a).

	hours	minutes	seconds
	2	15	32
+	1	46	35

b) .

	Years	Months	Days
	2020	02	13
−	2015	08	22

02. i) To which century does AD 2020 belong ? (02 Marks)

ii) What is the last year of this century ? (02 Marks)

iii) How many days in the year AD 2020 ? (02 Marks)

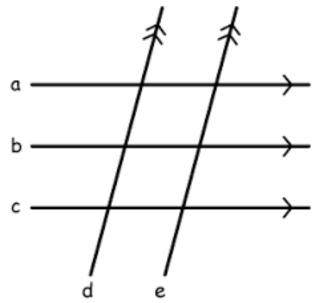
iv) Add (02 Marks)

	Years	Months	Days
	5	08	14
+	2	06	22

v) Malithas' date of birth is 2008.10.05 Find how old malitha is at 2026.04.13 (02 Marks)

Grade 7 **Mathematics** Unit – 07

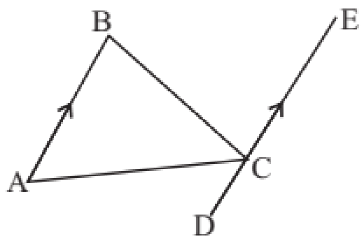
07. Parallel Straight Lines



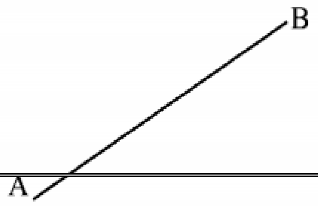
01. How to identify parallel lines ?

02. Write down the names of 5 objects that can be observed in the environment that have parallel edges.

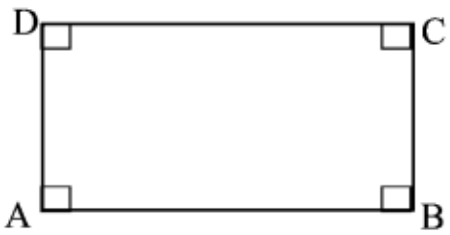
03. Name the parallel lines of the figures given below.



04. Draw a parallel line to AB and name it as XY



05. i. Name two pair of parallel lines in the given rectangle



ii.. Write down two mathematical equipment's that used to draw parallel lines.

iii.Connect A and C and draw a parallel line to AC through B

06. Kasuni tells that "Parallelogram has no symmetric axes."

i. Do you agree with the statement? Write reasons for your answer.

ii. Draw ABCD Parallelogram by using setsquare and a ruler.

iii. Join AC and draw a parallel line for AC through the point B.

07. i. Name two mathematical instruments that is used to draw parallel line.

ii.. Draw a straight line segment of length 8cm and name is as PQ.

iii.. Mark point A above PQ such that perpendicular distance from A to PQ is 4 cm

iv Draw a straight line segment which passes through A and is parallel to PQ.

08. Using only the straight edge and sets square, do the following constructions on the same diagram

i. Draw a straight line segment AB such that AB=7 cm and mark points A and B.

ii. Draw a perpendicular to AB at the point A and mark the point C, 5 cm away from A.

iii. Draw a straight line through C parallel to AB.

iv. Complete the rectangle ACBD.

09. (i) Draw a straight line segment XY such that XY = 6 cm.

(ii) Draw the arm YR such that $X\hat{Y}R$ = 78° and YR = 4 cm.

(iii) Draw a straight line through R parallel to XY, in the direction of X.

(iv) Draw a straight line through X parallel to YR.

(v) Name the point of intersection of the above two lines as 'S'.

(vi) Write the special name of the quadrilateral XYRS.

10. i. Draw any triangle of ABC.

ii.. Using a straight edge and a set square, draw a straight line through C parallel to AB

iii Draw a straight line though A parallel to BC.

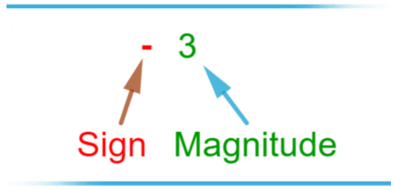
iv Draw a straight line through B parallel to AC.

v Name the intersecting points of above 3 parallel lines as P, Q and R

vi Measure and write down the length of the above pair of a parallel line.

Grade 7 **Mathematics** **Unit – 08**

08. Directed Numbers



01. Find the value of each of the followings using the number line.

i. $(+3) + (+1)$ ii. $(+3) + (-2)$

iii. $(-4) + (+2)$ iv. $(-3) + (-2)$

v. $(-5) + (+3)$ vi. $(-6) + (-1)$

02. Simplify

i. $(+2) + (+1)$ ii. $(+3) + (-2)$

iii. $(-5) + (+3)$ iv. $(-3) + (-1)$

v. $(-6) + (+2)$ vi. $(-7) + (-3)$

03. Simplify

i. $(+2) + (+1) + (+2)$ ii. $(+3) + (-2) + (-1)$

iii. $(-5) + (+3) + (-2)$ iv. $(-3) + (-1) + (-2)$

v. $(-4)+(+2)+(-1)$

vi. $(-6)+(-1)+(-3)$

04. Simplify

i. $\left(+3\frac{3}{4}\right)+\left(+1\frac{3}{4}\right)$

ii. $\left(+3\frac{1}{2}\right)+\left(-2\frac{1}{2}\right)$

iii. $\left(-5\frac{2}{3}\right)+\left(+3\frac{2}{3}\right)$

iv. $\left(-3\frac{1}{2}\right)+\left(-1\frac{1}{2}\right)$

v. $\left(-6\frac{2}{5}\right)+\left(+1\frac{2}{5}\right)$

vi. $\left(-8\frac{2}{7}\right)+\left(-2\frac{3}{7}\right)$

05. Simplify

i. $(+3.56)+(+2.11)$

ii. $(-40.44)+(-2.54)$

iii.. $(-3.56)+(+14.30)$

iv. $(+2.44)+(-4.34)$

v $(+3.4)+(-2.1)+(+5.1)$

vi. $(-4.4)+(-2.4)+(-6.7)$

English Medium Mathematics, English Medium Mathematics, English Medium Mathematics, English Medium Mathematics, English Medium

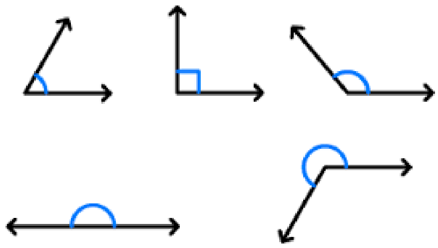
Grade 7

Mathematics

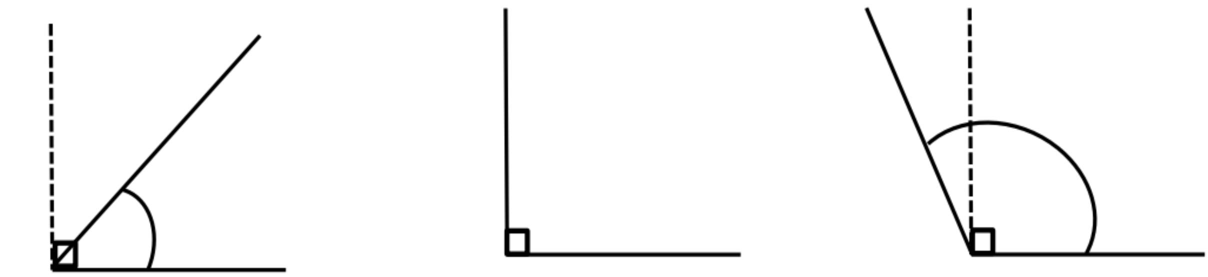
Unit – 09

English Medium Mathematics, English Medium Mathematics, English Medium Mathematics, English Medium Mathematics, English Medium

09. Angles



01. Complete the sentences using words **less than** and **greater than**.



An acute angle is

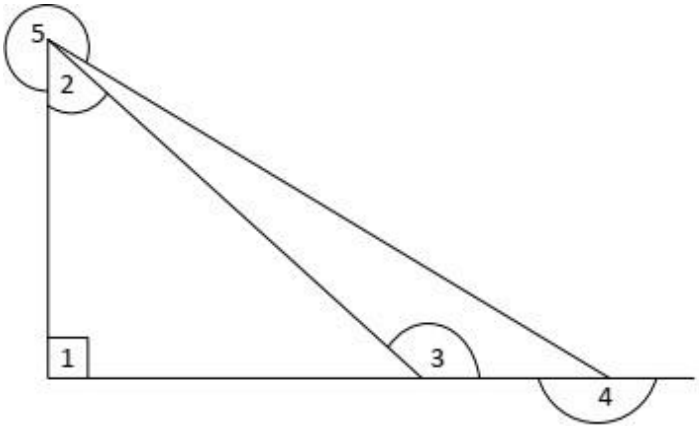
....
a right angle.

Right Angle

An obtuse angle is

....
a right angle.

02. Name the type of angle that is denoted by each number in the figure given below



1-

2-

3-

4-

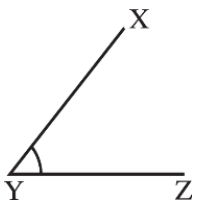
5-

03. i. Write down 3 instances where you can observe angles which are dynamic in nature in your surrounding environment.

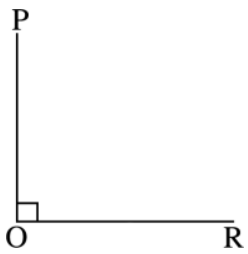
ii. Write down 3 instances where you can observe angles which are static in nature in your surrounding environment.

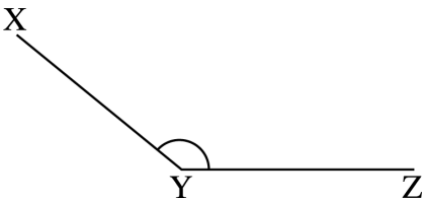
04. Name the following angles and write down the vertex and the arms also

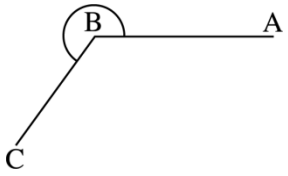
i.



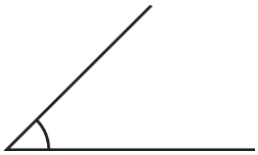
Ii.



iii.. 

iv. 

05. Name the following angles using letters of the English alphabet.

i. 

Ii. 

iii. 

06. Draw the following angles by using the Protractor

i. $A\hat{B}C = 85^0$ ii. $X\hat{Y}Z = 105^0$ iii. $P\hat{Q}R = 167^0$

iv. $C\hat{D}E = 58^0$ v. $T\hat{Q}R = 1350^0$ vi. $L\hat{M}N = 38^0$

07. Draw the following angles by using the Protractor

i. $A\hat{B}C = 285^0$ ii. $X\hat{Y}Z = 325^0$ iii. $P\hat{Q}R = 275^0$

08. Measure and write down the following angles

i. $P\hat{A}Q$

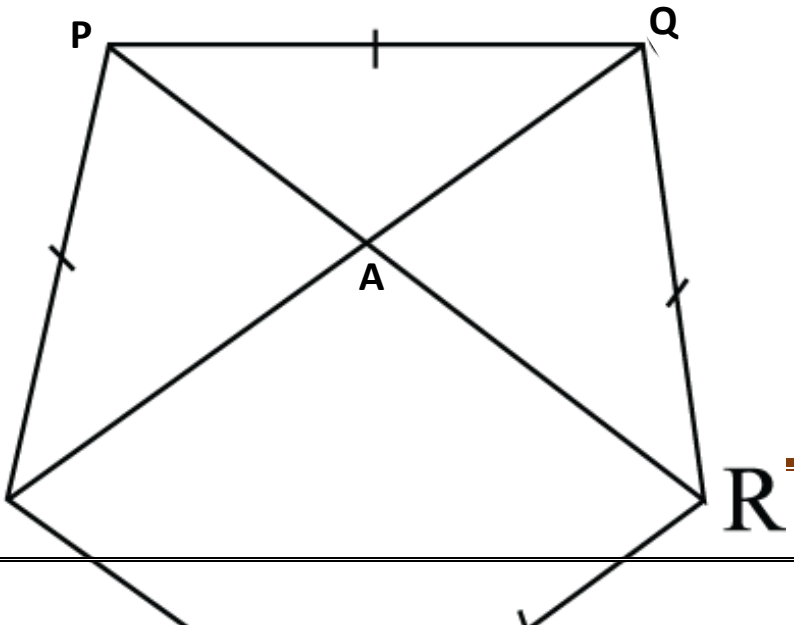
ii. $T\hat{A}R$

ii. $P\hat{A}T$

iv. $Q\hat{A}R$

v. $T\hat{S}R$

v i. $A\hat{R}S$



T **R**

vii. $A\hat{T}S$

viii. *reflex angle* $T\hat{P}A$

S

ix. *reflex angle* $R\hat{Q}A$

x. *reflex angle* $A\hat{P}Q$

Past paper questions (Angles)

01. (a) Fill in the blanks

(i) Angles of magnitude greater than 90^0 are called as ..... angles.

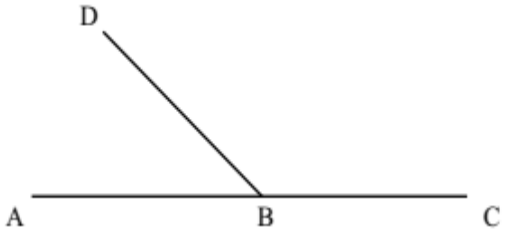
(ii) Angles of magnitude greater than 180^0 and less than 360^0 are called as ..... angles

(iii) Angles of magnitude 90^0 is called as ..... angles.

(iv) angles of magnitude greater than 90^0 and less than 180^0 are called as ..... angles.

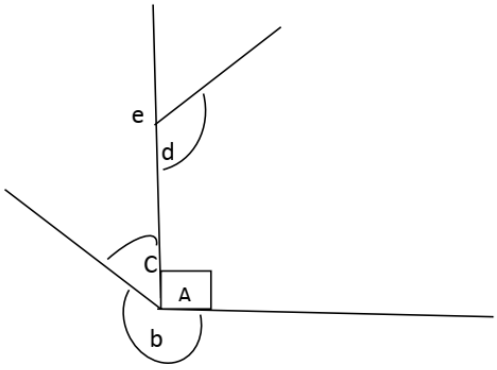
(v) angles of magnitude 180^0 is called as ..... angles

(b) Measure and write down the magnitude of angles $A\hat{B}C$ and $C\hat{B}D$



(c) Draw the angle $A\hat{B}C = 60^0$ using the protractor

02. a). Write the type of the a, b, c, d, e angles. (05 marks)



b). Join to the correct types of angles given below.

Corner of a book

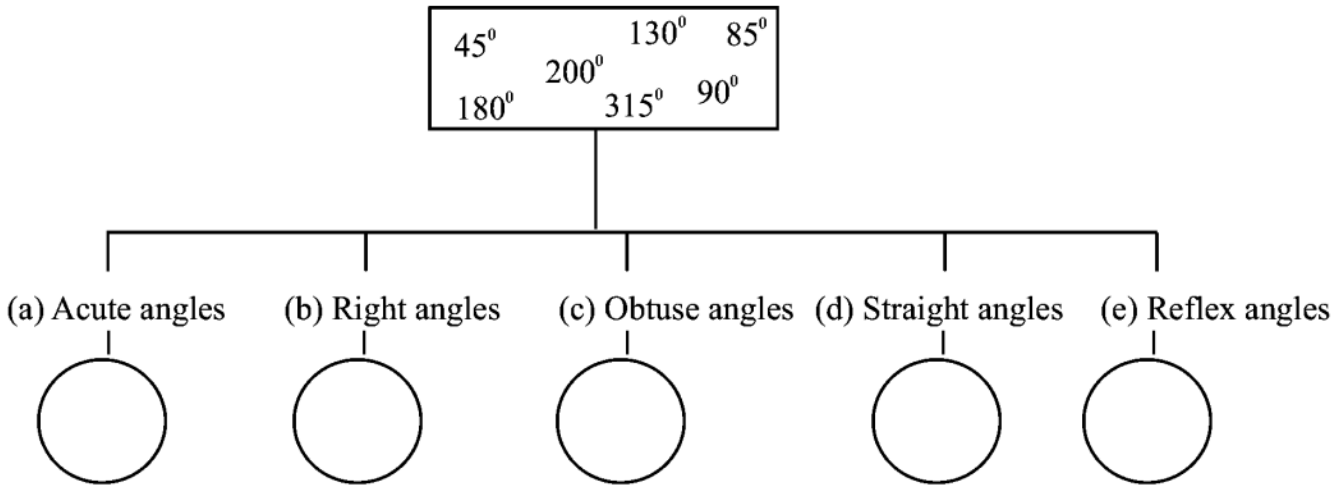
Angle Between two hands of a clock **Static angle**

Corner of a door **Dynamic angle**

Corner of a white board (04 marks)

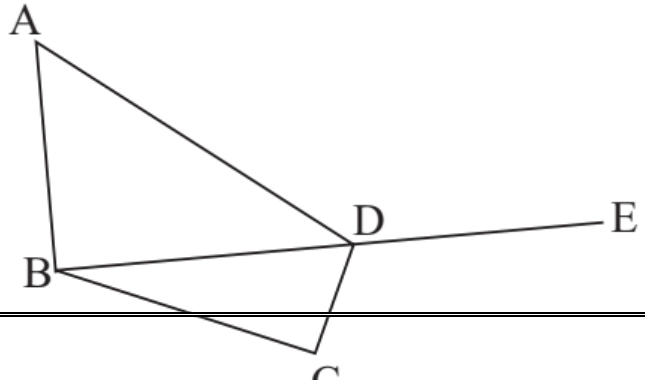
c). Draw an angle 280^0 and name it as PQR (03 marks)

03. i). Write the magnitude of the angles in each circles



ii). Write down an example for static angle and dynamic angle which you can find in the environment.

iii). Write down the magnitude of each angles using the given figure.



i. $A\hat{B}C$

ii. $A\hat{B}D$

iii. $A\hat{D}E$

iv. $B\hat{A}D$