



DAV PUBLIC SCHOOL, JHARSUGUDA
QUESTION BANK

SUB –MATHEMATICS

CLASS – VI

Natural numbers and whole numbers

Section A – 1 mark each

- Which is the Roman numeral of 49?
a) XCVII b) XLIX c) LXXIX d) XCI
- What is the smallest whole number?
a) 0 b) 1 c) 9 d) none of these .
- Which one is the smallest whole number ?
a) 3 b) 2 c) 0 d) 1
- The predecessor of the predecessor of the smallest 6-digit number is
a) 99,999 b) 99,998 c) 99,997 d) 1,00,000
- _____ + XLVI = LXX.
a) XXVI b) XIV c) XIV d) XXVI
- The Roman numerical representing the least four digit number is
a) X b) M c) D d) C
- The predecessor of the smallest five digit number is:
a) 9997 b) 9999 c) 9998 d) 10001
- $947 \times (\quad) = 947$.
a) 0 b) 947 c) 1 d) 2.
- Which is the Roman numeral of 49?
a) XCVII b) XLIX c) LXXIX d) XCI
- What is the smallest whole number?
a) 0 b) 1 c) 9 d) no .
- Choose the Roman numeral for $90 + 8$
a) LXVII b) XCVIII c) LXXXVIII d) LXVIII
- The face value of 8 in the numeral 9823745 is _____
a) 800000 b) 8 c) 80000 d) 8000

Section B – 2 marks each

- Convert the following into Roman Numerals. a) 535 b) 908
- Arrange LVII, XC, XV, LXIV, LXXI, XXIX in descending order.
- Write the four immediate predecessor of 5502002
- Write the Roman numerals of the 78 & 93.

Section C – 3 marks

- Using distributive property, solve : $322 \times 25 \times 6 - 322 \times 10 \times 15$
- Find the smallest number which when divide by 25, 40, 60 leaves remainder 7 in each case.
- Applying distributive property. Find the value of $635 \times 165 - 635 \times 65 - 635$
- Using distributive property, solve $223 \times 25 \times 6 - 223 \times 10 \times 15$
- Find the least number that should be added to 2000 so that 45 divides the sum exactly.
- Find the least number that should be added to 2000, So that 45 divide the sum exactly.

Section D – 4 marks

- $750 \times 17 + 750 \times 38 + 27 \times 750 + 18 \times 750$
- Find the least number that should be added to 2000 so that 45 divide the sum exactly.

3. In a school, the monthly fee of a child is ₹ 497. If there are 2983 students in a school, find the total fee collected in a month. (Use distributive property of multiplication)
4. a) Find the value distributive property : $125 \times 8 \times 883 + 117 \times 25 \times 40$.
b) Divide and check : $2781 \div 35$.
5. Rohan buys 12 computer and printers of the cost of one computer and printer is `56,233and ` 7,867 respectively. Find the total cost incurred by Rohan.(Use the distributive property of multiplication)
6. Find the value by using distributive property: $688 \times 10 \times 437 - 6880 \times 337$.
7. Cost of 5 pizzas is ₹ 725 & 6 pastries is ₹ 54. If I want to purchase 3 pizzas & 12 pastries, how much should I pay?
8. Rohan buys 15 computers and 15 printers. The cost of one computer and one printer is ₹ 40,250 and ₹ 6,000 respectively. Using distributive property of multiplication find the total cost incurred by Rohan.
9. Find two numbers nearest to 4000 which are divisible by 35.

Factors and multiples

Section A – (Each question carry 1 mark)

1. What is called which have more than 2 factors?
A) Composite number b) prime number c) even number d) odd number
2. Which of the following numbers is co-prime?
a) 35, 40 b) 26, 39 c) 31, 59 d) 17, 51
3. 789984 is divisible by which of the following number.
a) 5 b) 11 c) 4 d) none of these
4. The smallest odd prime number is:
a)5 b) 7 c) 9 d)3
5. Which pairs of numbers has LCM of 150?
a)10,15 b)150,300 c)2,300 d)15,50
6. Which of the following is a pair of twin prime between 50 and 70
a) 51,53 b)57,59 c)59,61 d)63,65
7. The smallest odd composite number is
a) 4 b) 6 c) 2 d) 9
8. Which of the following pairs of numbers is not a twin prime?
a)(3, 5) b) (7, 9) c) (5, 7) d) (11,13)
9. HCF of two prime number is
a)2 b)3 c)1 d) 4
10. Which is the smallest odd composite number?
a) 5 b) 9 c) 7 d) 4

Section B –(Each question carry 2 marks)

11. HCF of two numbers is 16 and their product is 1120. Find their LCM.
12. Write the greatest 4 digit number and express it as a product of primes.
13. Express the smallest 5-digit number as a product of primes.

Section C – (Each question carry3 marks)

14. Test the divisibility of the number 13856722 by 11.
15. The HCF & LCM of two numbers 13 & 1989 respectively. If one number is117.Find the other.
16. The HCF of two numbers is 16 and their product is 6400. Find their L.C.M.

17. L.C.M. of two numbers is 1760. The numbers are 160, 352. Find their H.C.F.
18. Find the L.C.M. of 30, 24, 36 & 16 by common division method.
19. By using the test of divisibility, check 2352825 is divisible by 11
20. Find the greatest number which divides 203 & 434 leaving remainder 5 in each case.
21. Find the HCF of 208, 494, 949 by continued division method.
22. Find the LCM of 198, 135, 108, 54
23. Write the greatest 5- digit number and express it as a product of primes.
24. Find the HCF of 1624, 522 and 1276 by continued division method.
25. Can two numbers have 16 as HCF and 380 as LCM? Give reasons.

Section D – 4 marks

26. In a morning walk, three boys step together. Their steps measure 80cm, 90cm. and 85cm respectively. What minimum distance should each walk so that all can cover the distance in complete steps?
27. The length, breadth and height of a room are 8.25m., 6.75m. and 4.50m. respectively. Determine the longest tape which can measure the 3 dimensions of the room exactly.
28. Three Haryana Roadways buses stop after 50km, 100km, 125 km respectively. If they come together from one place, then after how many km will they stop together?
29. Verify that product of two numbers 32 and 48 is equal to product of HCF & LCM.
30. The floor of a room is 6m 75 cm long and 5 m wide. It is to be paved with squared tiles. Find the largest size of tile needed.
31. Find the greatest number which divides 203 and 434 leaving the remainder 5 in each case.
32. Find the least number which when divided by 40, 50 and 60 leaves remainder 5 in each case.
33. Four bells rang at interval of 8, 9, 12 and 15 minutes respectively. If they rang together at 3 PM. When will they rang together next?
34. Find the HCF of 204, 144 and 252 by continued division method.
35. The LCM and HCF of two numbers are 180 and 6 respectively. If one of the number is 30, find the other.
36. Arati is helping her father in planting trees around the backyard. Arati plants a tree in every 25 minutes and her father plants a tree in every 15 minutes. If they started planting together after how long will they plant together next? What value do you depict from the above question? (any two points).
37. Atul, Ravi and Tarun go for a morning walk. They step off and their steps measure 40 cm, 42 cm and 45 cm respectively. What minimum distance each should walk so that each can cover the same distance in complete steps? How is morning walk useful?

Ratio, proportion and unitary method

Section A – 1 mark

1. The ratio of 13 weeks to 1 year in simplest form is:

a) 13 : 1

b) 13 : 365

c) 1 : 4

d) 13:12

2. Comparing two quantities by division is called

- a) Ratio b) Proportion c) Percentage d) Unitary method

3. The ratio of 2 l to 600ml is

- a)1:300 b)1:30 c)3:10 d)10:3

4. The ratio of 35 days to 2 weeks in simplest form is

- a) 35:7 b) 35:14 c) 5:2 d) 5:4

5. The ratio of the letter 'E' in the word "GEOMETRY" to the total letters in the word is

- a)1 : 4 b) 3 : 8 c) 2 : 5 d) none of these

6. The ratio of even numbers to odd numbers in a set of natural numbers from 1 to 25 is

- a)13:12 b) 12:13 c) 1:25 d) 11:13

Section B – 2 marks

1. Find the ratio of 3kg to 250g

2. Are 20, 10,10,5 in proportion?

3. Out of 32 m long cloth if 24 m were used .Find the ratio of cloth used to total length of cloth.

4. There are 50 students in a class. If 24 of them are boys, find the ratio of boys to girls.

5. Check whether 48, 36, 27 are in continued proportion.

6.Fill in the box so that 33, 132, , 120 are in proportion

7. Are the following numbers in proportion ? 63, 55, 32, 72

8.Fill in the box so that the numbers are in proportion 24, 18,, 96

9. Are the numbers 3, 9 and 27 in continued proportion? Justify

10. Check whether 20, 10 and 5 are in continued proportion.

11. Fill in the box so that 21, 27, 14, are in proportion.

Section C – 3 marks

1. The cost of 18 kg sugar is ₹ 216 .Find the cost of 1 quintal sugar.

2. Arun earns ₹. 3, 90,000 per year. Find his earnings for 25 weeks

3. Cost of one dozen bananas is ₹ 21. Find the cost of one score bananas?

4. In a dictation test of 20 words, Rohan spelled 18 words correctly. Find the ratio of

- i) Total words to wrongly spelled words ii) Correctly spelled words to wrongly spelled words

5. Arun earns ₹ 3, 90,000 per year. Find his earnings for 25 weeks.

6. Sahil ran a distance of 1.5 km. and his younger brother could run only 500 m. Express the distances as a ratio.

7. A bag contains 5 kg of rice, 1500 gm have been taken out for cooking. What is the ratio of the amount taken out to the amount left in the bag ?

Section D – 4 marks

1. A worker earns ₹ 18,000 in 15 months.
 - a) How much will the worker earn in 7 months.
 - b) In how many months will he earn ₹ 36,000?
2. Out 30 meters long cloth, 24 meters were used for making 8 frocks. Find the ratio of
 - a) Total cloth and cloth used.
 - b) Remaining cloth and cloth used.
3. A factory produced 57,900 screws in the month of April 2002 .
 - a) How many screws did the factory produced in 8 days?
 - b) In how many days did the factory produce 34,740 screws?
4. Mrs. Sareen earns ₹ 2, 50, 000 every year and pays ₹ 24,000 as income tax. Find the ratio of
 - a) Income tax to Income
 - b) Income to Income tax
5. A car travels a distance of 550 km in 5 hours
 - a) What distance will the car cover in 7 hours?
 - b) How many hours are needed to travel a distance of 3080 km if the car travels in uniform speed?
6. The weight of 72 books is 9 kg.
 - a) Find the weight of 80 such books.
 - b) How many books will weight 6 kg.
7. What is the ratio of the
 - a) Number of even numbers to odd numbers from the set of natural numbers from 30 to 50 ?
 - b) Prime numbers to composite numbers from the set of natural numbers from 1 to 20 ?
8. A car travels a distance of 550 km in 5 hours.
 - a) What distance will the car cover in 7 hours?
 - b) How many hours are needed to travel a distance of 3080 km, if the car travels in uniform speed ?

Percentage and its applications

Section A – 1 mark

1. 75% of 1Kg is equal to
 - a) 75gm.
 - B) 0.75 gm.
 - C) 750gm
 - d) 75kg.
2. 65% of 1 litre is equal to
 - a) 65ml
 - b) 650ml
 - c) 65 l
 - d) 0.65ml
3. The amount 20% less than ₹150 is
 - a) ₹30
 - b) ₹170
 - c) ₹130
 - d) ₹12
4. The formula of Rate of simple interest is
 - a) $\frac{S.I \times 100}{P \times T}$
 - b) $\frac{S.I \times 100}{P \times R}$
 - c) $\frac{S.I \times 100}{T \times R}$
 - d) None of these

5. $12\frac{1}{2}\%$ of $\frac{1}{2}$ kg is

a) $62\frac{1}{2}$ g

b) 62 g

c) 50 g

d) $50\frac{1}{2}$ g

6. 25% of one score pencil is

a) 12

b) 20

c) 4

d) 5

7. 100 % of 1 litre is equal to

a) 1 ml

b) 100 ml

c) 1 litre

d) none of these

Section B – 2 marks

1. Find the simple Interest on ₹450 at 6% p.a for 8 months.
2. Find the simple interest on ₹ 2,000 for 6 months at the rate of $4\frac{1}{2}\%$ per annum.
3. What is the percentage of prime numbers from 1 to 15?
4. There are 700 students in a school out of which 420 are boys. Find the percentage of girls.
5. Find $12\frac{1}{2}\%$ less than 16 hours
6. 25% of 10% of 1 kg.
7. What percent is 13 weeks of one year ?
8. The monthly salary of Mohan is ₹ 950. If his salary increases by 6%, find his new salary.

Section C – 3 marks

1. Find the amount 20% less than Rs150
2. A man buys a radio set for ₹ 900 sells it for Rs 972.What is his profit or loss percent?
3. Rohan's monthly earning IS ₹.8, 000. He spent 75% of his income and saves the rest. How much money did he spend? What value you learn from this?
4. A man earns ₹ 12,000 and spends Rs.10,500. If he saves rest of the money, find the percentage of his savings. Why do we save money?
5. Mr. Sen purchases a house for ₹ 2, 80,000 and spends ₹ 50,000 on repairs. If he sells it for ₹ 4,10,000 ; find his profit percent.

Section D – 4 marks

- 1.The cost of a sari was ₹ 500. If the shop keeper allows a discount of 20%on the sari, what is cost of sari after discount?
2. Vaibhav deposits ₹3,000 in a bank for a period of 2 years. If the bank gives an interest of 5% per annum. Find the amount Vaibhab would get back at the end of 2 years.
3. Prabhat deposited ₹ 5000 in a bank which pays $5\frac{1}{2}\%$ interest. After 3 year .He withdraws the money& buys an almirah for ₹4700.How much money is left with him ? What value you learn from this?
4. Minati obtained 410 marks out of 500 in SA-I & Neha got 534 out of 600 marks. Find whose performance is better? What value you learn from this
5. Ramlal bought oranges at ₹ 30 per dozen. He had to sell them at a loss of 5% . Find the selling Price.

6. Nakul's father Mr. Gupta got transferred from Delhi to Mumbai. Mr. Gupta had deposited ₹ 55,000 in the Punjab National Bank two years before at 8% per annum. He closed the account and with the interest money he purchased gifts for his friends and family members. Nakul also got two jeans, two shirts and a video game as gift. Nakul, with the permission of his parents, gifts one jeans and one shirt to Rahul, the son of milkman. Rahul was very happy and thanked Nakul for the gift.
- How much money did Mr. Gupta get from bank?
 - How do you feel when you gift /donate anything to the needy?
7. Rohan won, ₹ 3, 25,000. He donated 30% of the amount to a charitable trust and rest of the amount he distributed to his daughter and son equally. Find the amount each of his children got. Write two value shown by him.
8. John bought 100 eggs for ₹ 40. Out of these, 4 eggs were found to be broken and he sold the remaining eggs at the rate of ₹7.50 per dozen. Find his gain or loss percent.
9. Salim deposited ₹12,000 in a bank which pays 15% interest per year. Find the amount he is expected to get after $4\frac{1}{2}$ years. Why do we save money in bank?
10. Sabir deposited ₹ 12000 in a finance company which pays 15% interest per year. Find the amount he is expected to get after 2 years and 6 months.
11. A trust has a fund of ₹ 3,00,000 . It donates 5% of the money to an orphanage. Find the money donated to the orphanage and which value is depicted by the trust.
12. Out of 1200 people, 800 know only English, 50 know only Punjabi and the rest know both the languages. Find the percent of
- people who know only English
 - people who know both English and Punjabi

Basic geometrical concepts

Section A – (1 mark)

- A ----- extends infinitely in all directions.

a) Plane	b) angle	c) line	d) ray
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- Two lines which cut each other at a point are called----- lines.

a) Curve lines	b) parallel lines	c) intersecting lines	d) straight lines.
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- Three or more lines in a plane which pass through the same point are called:

a) Intersecting lines	b) Parallel lines	c) concurrent lines	d) None of these.
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- More than two lines in a plane which cut each other at one point are called

a) Parallel lines	b) concurrent lines	c) collinear points	d) intersecting lines
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- Which of the following can be measured?

a) Line	b) Ray	c) Point	d) Line segment
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- How many end point does a line have ?

a) 2	b) 0	c) 3	d) none of these
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7. How many lines can pass through one given point in a plane ?

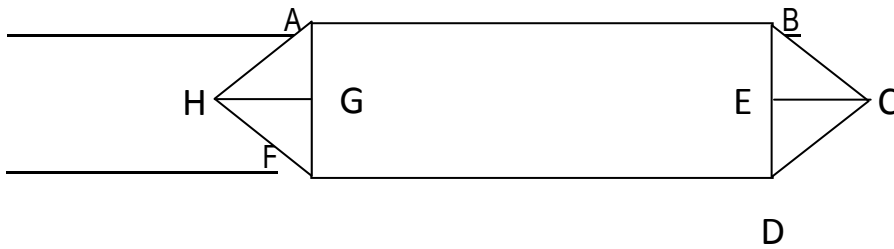
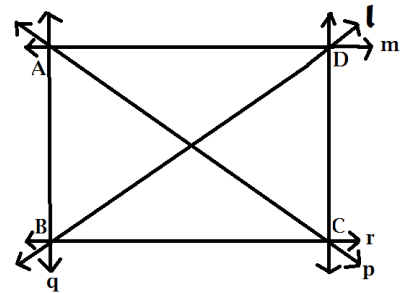
- a) one b) two c) many d) none of these

Section B – 2 marks

- Find the maximum and the minimum number of point of intersection of three lines in a plane.
- Lines l, m, n are concurrent. Also lines r, l and m are concurrent. Check whether the lines r, l, m and n are concurrent or not. Show it by drawing the figure.
- X, Y, Z are any three points in a plane. Join them in pairs. How many lines can you get, if
 - X, Y, Z are collinear?
 - X, Y, Z are not collinear?

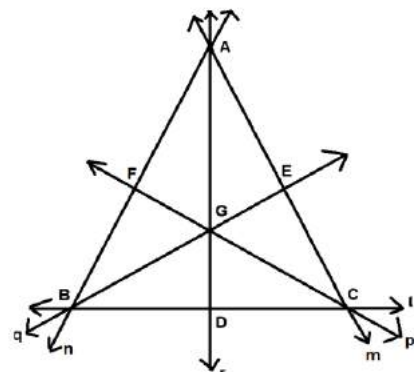
Section C – 3 marks

- In the given figure, name the
 - lines concurrent at D and B.
 - Point of concurrence of lines AD, AB and AC
 - lines concurrent at A.
- Give three examples each for the objects having
 - Flat surface
 - Curved surface
 - Parallel lines
 - Intersecting lines
- How many line segments are there in the given fig. Write their names.



Section D – 4 marks

- In the figure given here, name
 - all the sets of collinear points,
 - all the points that lie in this plane,
 - two pairs of intersecting lines,
 - the lines concurrent at point G.



Line segments

Section A – 1 mark each

1) How many line segments are there in the above figure?

- a) 5 b) 6 c) 7 d) 8

2) A line segment has _____ end points

- a) Two b) One c) No d) Many

3) Comparison of line segment can be done by-

- a) Observation b) tracing c) using a divider d) All of the above

4) Construction of a line segment can be done using

- a) Scale b) compasses c) both a and b d) none of these

5) The number of diagonals in a pentagon is –

- a. 2 b. 3 c. 4 d. 5

6) Which of the following has definite length?

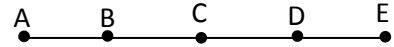
- a. A line b. A line segment c. A ray d. None of these

7) Two lines intersect

- a. at a point b. at two points c. at many points d. in a line

8) In the figure, the number of line segments is

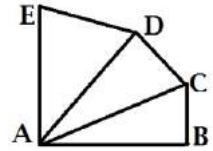
- a. 5 b. 10 c. 15 d. 20



9) One end point of a line segment AB is against the mark 2 and other at mark 9 of a scale.

What is the length of segment AB?

- a. 6cm b. 7cm c. 9cm d. 11cm



Section B – 2 marks

1. Construct a line segment whose length is thrice the length of the given line segment.



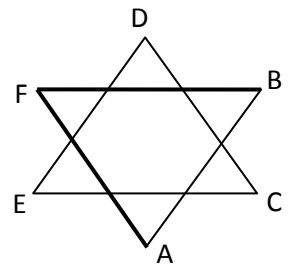
2. Construct the line segment PQ = 7.4 cm using compasses.

Section C – 3 marks

1) If $AB = 5.4\text{cm}$, $CD = 3.2\text{cm}$. Then construct the following Line segment.

- a) $3CD$ b) $AB + 2CD$ c) $AB - CD$

2) How many line segments are there in the given figure? Name any four.



3) Construct a line segment AB of length 7.5 cm. From this line segment, cut off a line segment

AC of length 3.2 cm. Measure the length of the remaining line segment CB.

SECTION—C (4- marks each)

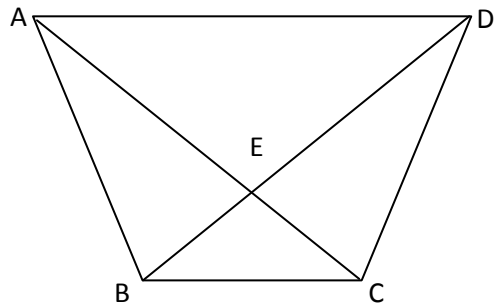
11. In the given figure, write –

a. $AE + EC = \underline{\hspace{2cm}}$

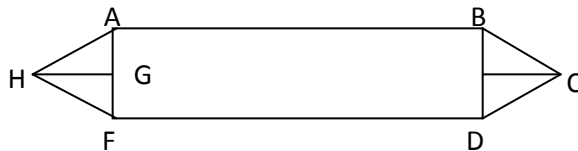
b. $AC - EC = \underline{\hspace{2cm}}$

c. $BD - BE = \underline{\hspace{2cm}}$

d. $BD - DE = \underline{\hspace{2cm}}$



12. How many line segments are there in the given figure? Name any six.



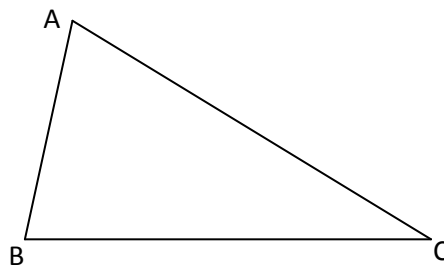
13. If $AB = 3.8$ cm and $CD = 2.5$ cm, construct a line segment whose length is the sum of the length of these line segment and measure it.

14. The length of an air conditioner remote is 10 cm and length of a television remote is 16 cm. Construct a line segment of length equal to the difference of their length.

15. Rajan purchased a ribbon of length 20 cm to tie his project report. He used 14 cm of the ribbon. Construct a line segment of the same length as the difference of given lengths.

16. You are given a triangle here.

Construct a line segment whose length is equal to the sum of all the three sides of this triangle.



17. If $AB = 4.5$ cm, $CD = 2.3$ cm then construct the following line segments.

a. $AB + 2CD$

b. $AB - CD$

18. Find the perimeters of a square of side 2 cm and of an equilateral triangle of side 1.5 cm.

19. If $PQ = 5.4$ cm and $RS = 2.7$ cm, construct a line segment whose length is the difference of the lengths of these line segments.

20. A group of four children were given a project where they were asked to bring some eco – friendly fibres. Neha forgot to bring the fibre and was upset. Two of her friends Sneha and Swati shared their fibres with Neha. Sneha gave 16.5 cm of fibre and Swati gave 8.5 cm of fibre to her.

a. How much more fibre did Sneha give to Neha than Swati? Construct the line segment representing this length.

b. What value is exhibited by the children?

Angles

Section A – 1 mark

1. $\frac{3}{5}$ of a right angle =-----degrees.
a. a) 60° b) 54° c) 90° d) 108°
2. Angle whose measure is more than 90° but less than 180° is called:
a. a) acute angle a) obtuse angle c) complete angle d) right angle.
3. Two angles whose sum is 90° are called_____ angles
a) Complementary b) Supplementary c) Complete d) Reflex
4. The angle between two opposite rays is
a. a) right b) obtuse c) acute d) Straight
5. $\frac{7}{9}$ of a right angle is _____degrees
a. a) 77 b) 70 c) 60 d) None of these
6. What type of angle is formed in the corner of a square ?
a) Acute angle b) Obtuse angle c) Right angle d) Straight angle
7. What is the measure of two angles between hour and minute hands of a clock at 9 o' clock?
8. A bicycle wheel has 48 spokes, what is the angle between a pair of two consecutive spoke?
9. What is reflex angle?
10. Through how many degree does the hour hand of a clock turn in 5 minutes?
11. How many degrees a point makes to complete one rotation?
12. What kind of angle do you get when you open any two adjacent fingers of your hand?
a. right angle b. obtuse angle c. acute angle d. straight angle
13. The supplement of an angle of 75° is –
a. 95° b. 105° c. 100° d. 115°
14. The complement of an angle of 55° , is –
a. 45° b. 125° c. 35° d. 135°
15. How many right angles make one complete angle?
a. 2 b. 3 c. 1 d. 4
16. The measure of a straight angle is
a. 90° b. 150° c. 180° d. 360°
17. $\frac{2}{3}$ right angles = ?
a. 115° b. 135° c. 270° d. 230°
18. The figure formed by two rays with the same initial point is called an _____.
19. A reflex angle lies between _____ $^\circ$ and _____ $^\circ$
20. The angle whose measure is equal to 360° is called a _____ angle.
21. $\frac{2}{15}$ complete angle = _____ $^\circ$
22. Sum of the angles forming a linear pair is always equal to _____ degrees.

Section B – 2 marks

1. What is supplement of 29.5° .
2. One of the angles of a linear pair is obtuse. What kind of angle is the other?
3. How many degrees are there in
 - a) $\frac{2}{15}$ complete angle
 - b) one-fourth of straight angle
4. What is the measure of the supplement of the complement of 45° ?
5. An angle is formed by two adjacent fingers. What kind of angle will it appear?
6. Sikha is rowing through boat due north- east. In which direction will she be rowing If she turns through
 - i) a straight angle
 - ii) a complete angle
7. What is the measure of an angle in degrees between: a) North and West b) North and South west
8. Using only ruler , draw an acute angle and right angle.
9. A bicycle wheel makes four and half turns. Find the number of right angles through which it turns.
10. Using only a ruler, draw an acute angle, an obtuse angle and a straight angle.
11. How many degrees are there in $\frac{5}{6}$ straight angle.
12. Write the supplement of the :
 - a. 82°
 - b. 31.5°
13. Write the complement of the :a) 71° b) $59\frac{1}{2}$ degree
14. If the measure of one angle of a linear pair is of 85° , find the other angle.

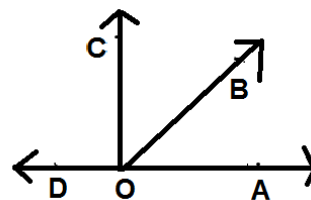
Section C – 3 marks

1) Draw the following by using scale & pencil

- a) One pair of adjacent angles
- b) One linear pair.
- c) Vertically opposite angles.

2) Look carefully at the given figure and write down

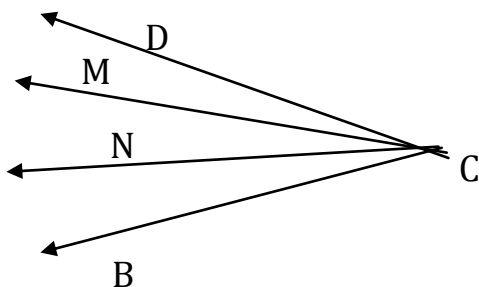
- a) one pair of complementary angles,
- b) two pairs of supplementary angles.



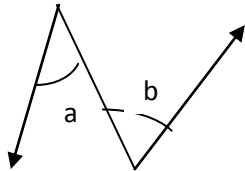
3) Write the kind of angle formed between the following directions

- a) North and South
- b) North and North East
- c) South and East

4) Name the six angles in the diagram above that have C as vertex.



5) In the following figure, are $\angle a$ and $\angle b$ adjacent? Justify your answer.

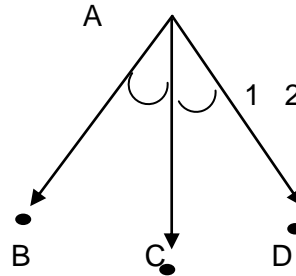


6) Define with figure

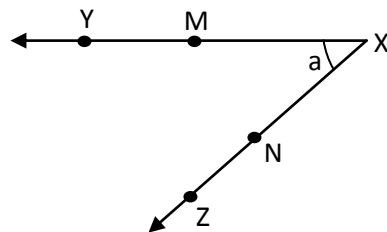
- a) supplementary angles.
- b) Vertically opposite angles.
- c) Linear pair.

7) Complete the following using the given figure.

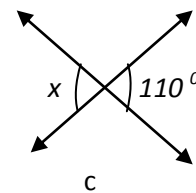
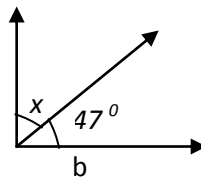
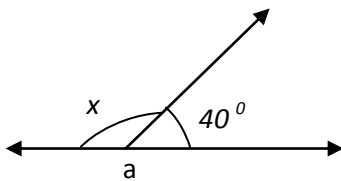
- a) Vertex of $\angle 1$ = _____
- b) Another name for $\angle 2$ is _____
- c) $\angle 1$ and $\angle 2$ are _____ angles.



8.. Name the given angle in six different ways.



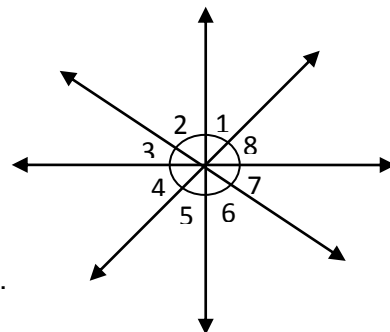
9. Find the measure of angle x in the following figures. Give reason also.



Section D – 4 marks each

10. Look at the given figure and answer the following:

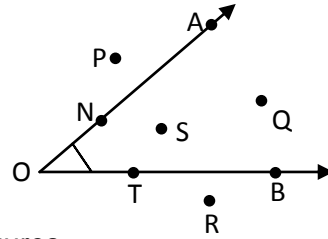
- a) Sum of $\angle 1, \angle 2, \angle 3, \angle 4, \angle 5, \angle 6, \angle 7, \angle 8$
- b) $\angle 3$ = _____ (vertically opposite angle)
- c) $\angle 4$ and _____ are adjacent angles.
- d) $\angle 1 + \angle 2 + \angle 3 + \angle 5 + \angle 6 + \angle 8 = 320^\circ$ then $\angle 4 + \angle 7 = \dots$



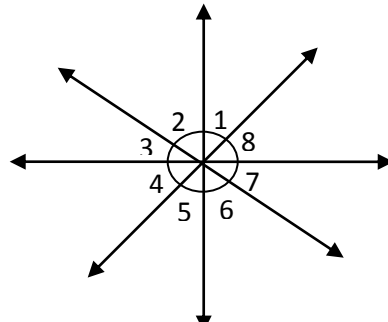
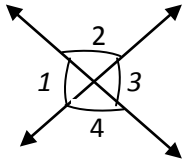
Section D – 4 marks each

11. In the given figure, list the points which

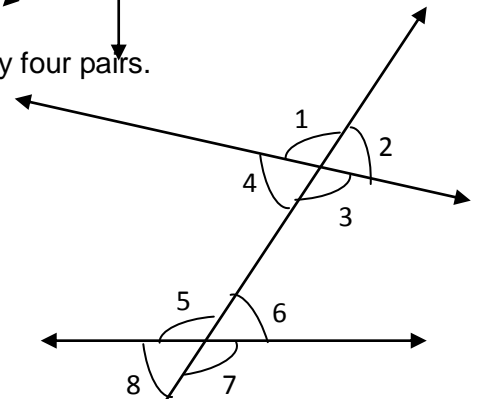
- a) are in the interior of $\angle AOB$
- b) are in the exterior of $\angle AOB$
- c) lie on $\angle AOB$



12. Write the pairs of vertically opposite angles in the following figures.

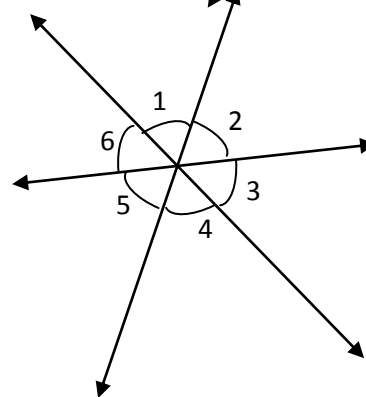


13. How many pairs of linear pair are there in the figure? Name any four pairs.



14. Answer the questions from the given figure.

- a) Name a pair of vertically opposite angle.
- b) Are $\angle 2$ and $\angle 6$ vertically opposite angles?
- c) Name one linear pair.
- d) Are $\angle 6$ and $\angle 5$ adjacent angles?

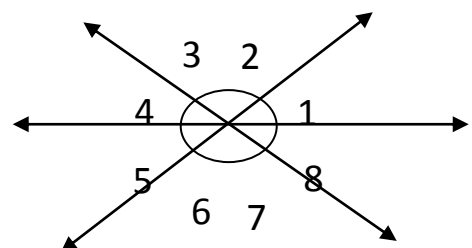


15. Write 'True' or 'False'

- a. Adjacent supplementary angles form a linear pair.
- b. Complementary angles are always adjacent.
- c. There are two pairs of vertically opposite angles in the plus sign.
- d. Adjacent angles can be complementary.

16. From the given fig, answer the following

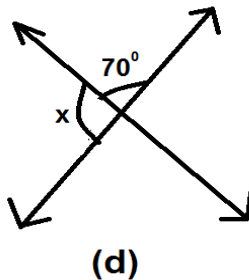
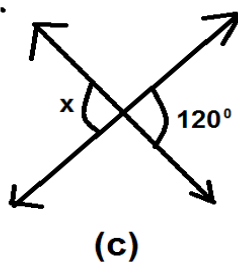
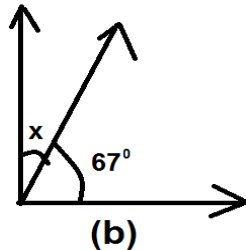
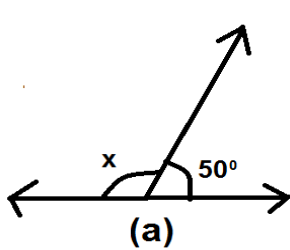
- a) $\angle 3 = \dots\dots\dots$ - (Vertically Opposite)
- b) $\angle 6 = \dots\dots\dots$ - (Vertically Opposite)
- c) $\angle 2$ and $\dots\dots\dots$ - are adjacent angles
- d) $\angle 7$ and $\dots\dots\dots$ - are adjacent angles



e) The sum of all angles is _____

f) If $\angle 1 + \angle 2 + \angle 3 + \angle 4 + \angle 5 + \angle 7 + \angle 8 = 310^\circ$, Find $\angle 6$

17) Find the measure of $\angle x$ in the following figures



18) How many degrees are there in?

- a) $\frac{2}{3}$ of right angle?
- b) $\frac{5}{6}$ of straight angle ?
- c) $\frac{5}{15}$ of complete angle?
- d) Supplementary angle of 52° ?

HOTS

1. Reena was standing facing N-W direction. She turns by 90° in anti clock wise direction. Again she turns by 180° in anti clockwise direction. Now she turns 45° in clockwise direction. Which direction is she facing now?

INTEGERS

SECTION-A (Each question carry one mark)

1. Which integer added to (-7) will give the integer 10?
2. Find the integer when square of two subtracted from cube of (-1).
3. What power of (-4) is (-64)?
4. Find the number which is 4^{th} power of (-10).

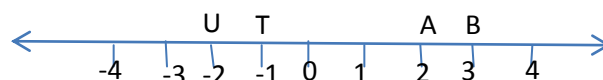
5. Write the identity element of addition.
6. Write the multiplicative inverse of -6.
7. Compare $(-82) \underline{\hspace{1cm}}$ (-28)
8. $\underline{\hspace{1cm}}$ is the greatest negative integer.
9. Compare $(-7) + (-7) \underline{\hspace{1cm}}$ $(-7) - (-7)$
10. Write the opposite of going 3km towards east.
11. The integer 15 less than 4 is $\underline{\hspace{2cm}}$.

SECTION-B (Each question carry two marks)

11. Add 6 and -4 on number line.
12. Find the value of $65 - (-31) + 15$
13. Find the value of $325 \times (-641) + 325 \times (-359)$
14. Find the value of $(-11)^2 + (10)^2 + 5^2$
15. Find the value of
 $1 - 2 + 3 - 4 + 5 - 6 + \dots + 99 - 100$
16. Simplify: $(-1)^{87} \times (-2)^3 \times 3^2 \times (-10)^5$
17. For $a = 2$, $b = -1$ and $c = 1$, find the value of $3a - 5b - 7c + 2$
18. Sum of two integer is 52. If one of them is (-29) , find the other.
19. Subtract the sum of 42 and -39 from -100.
20. Find the value of $324 \times (-94) + 324 \times (-5) - 324$

SECTION-B (Each question carry three marks.)

21. In a quiz competition there are 25 questions. 2 marks are allotted to every correct answer and -1 to every wrong answer. Manu attempted 22 questions out of which 2 answers were wrong. The teacher gave her 40 marks. Manu went to the teacher and informed her that she has been given more marks. The teacher was happy with Manu.
 - i) What is the Manu's actual score?
 - ii) What quality of Manu made the teacher happy?
22. A cement company gains ₹ 12 per bag of white cement sold and gets a loss of ₹ 8 per bag of grey cement sold.
 - i) If the company sells 3500 bags of white cement and 5000 bags of grey cement in a month, find the gain or loss.
 - ii) If the number of grey cement bags sold is 6000, how many bags of white cement should the company sell to have neither gain nor loss?
23. The points P, Q, R, S, T, U, A and B are on the number line representing integers such that $TR=RS=SU$ and $AP=PQ=QB$. Locate and write the rational numbers represented by points P, Q, R and S.



24. Find the value of $7+(-7)+7+(-7)+(-7)+\dots$ if the number of 7 are

- i) 145 times ii) 96 times

25. Compare a) $18 \times (-3) + 21$ and $18 \times [(-3) + 21]$

b) Simplify $(-277) + (-541) + 900 + (-572)$

26. Fill in the blanks: 10, 5, 0, -5, _____, _____, _____, _____, _____.

INTRODUCTION TO ALGEBRA

SECTION- A (1 MARK EACH)

- The expression $2p + 5q - 9p$ is
(a) Monomial (b) Binomial (c) Trinomial (d) None of these
- If $X = 6$, $Y = 2$, $Z = 3$ What is the value of the expression $\frac{xy - xz}{z^2}$
(a) $-2/3$ (b) $2/3$ (c) $3\frac{1}{3}$ (d) 5
- If the perimeter of a square is P meters, then the length of each side in meters is
(a) $P + 4$ (b) $P \div 4$ (c) $P - 4$ (d) $4 \div P$
- The coefficient of q in $-q$ is
(a) 1 (b) -1 (c) q (d) $-q$
- Number of notebooks bought for Rs. y at a rate of Rs. 30 per notebook, is
(a) $30/y$ (b) $30y$ (c) $y/30$ (d) $y + 30$

SECTION-B (2 Marks each)

- Add the followings .
 $-2a + 3b$, $5a + 2b - c$, $-a - b - c$
- Subtract $3a^2 + 2b^2 - 3ab$ from $-2a^2 - 4b^2 + ab$
- If $P = -3$, $q = 0$, $r = 2$ Find the value of $2pq + 3qr - 4pr$
- Rohit travels by car with the speed of x km/hr for 2 hours and 3 hours with the speed of y km/hr. Write the expression for total distance travelled by him.
- Two sides of a triangle are P cm, q cm and perimeter is r cm. Find the expression for third side of the triangle.

SECTION – C (3/4 Marks)

- From the sum of $3x^2 + 2y^2$, $-x^2 - 4y^2 + 2xy$ and $6xy + 2x^2 - 3y^2$ subtract $-5x^2 + 2y^2 - 3xy$
- Number of students of class – V and VI who participated in “SAVE ENVIRONMENT” campaign is given by the expression $(2pq + 3p^2 + 2q^2)$ and $(4p^2 + q^2 + 3pq)$ respectively.
(a) If $p = 2$, $q = 5$, find how many more students of class V participated in the campaign.
(b) What value is possessed by participating students?
- Subtract the sum of $2a + 3b$, $a - 2b + c$, $-a + 2c$ and $4a + 2b - 5$ from the sum of $6a - 4b + 8$ and $7b + 2a - 5c$.
- Amounts donated by Mr. Rohan and Mr. Sohan to an orphanage are represented by the expression $(2a^2 - 3b^2 + 6ab)$ and $(5b^2 - 2ab + 3a^2)$ respectively.
(a) Find the expression for ‘total amount’ donated by them. Also, When $a = 100$, $b = 150$ Find the total amount.
(b) What value is depicted by them.

LINEAR EQUATION

SEC-A (Each question carry 1 mark)

1. 7 less than 12 times a number is 13 represented as _____.
2. The power of variable in linear equation is _____.
3. The linear equation for 2 more than the sum of x and 4 is 8 will be _____.
4. The solution of $\frac{x}{9} = 0$ is _____.
5. Convert into equation, six times a number Y is 3 more than the number itself.

SEC-B(Each question carry two marks)

6. Solve : a) $0.5x = 25$

b) $\frac{x+8}{2} = 4$

c) $2(x-5) = 10$

d) $4x-3 = 2x + 1$

e) $3(Y - 3) = 5(2Y + 1)$

SEC-C(Each question carry three marks)

Q7. Solve and check.

a) $Y + \frac{3}{2} = 5$

b) $1 - 4x = -11$

c) $3x + \frac{1}{2} = 2 - x$

d) $\frac{2x}{3} = 16$

e) $8x + 5 = 6x - 5$

Transversal and Pairs of lines

SEC-A (1 mark each)

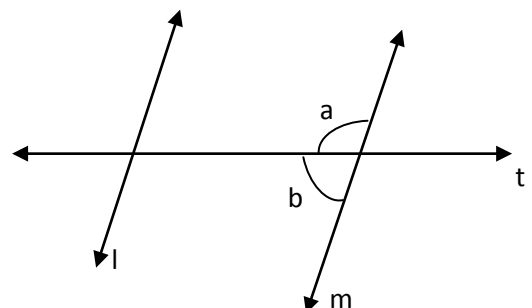
1. The opposite edges of a rectangular blackboard are –

- a. parallel b. perpendicular c. intersecting d. none

2. In the given figure 't' is a transversal to lines

l and m. The angles a and b are forming –

- a. alternate angle
b. alternate interior angles
c. a linear pair
d. corresponding angles



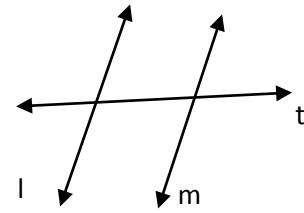
3. Alternate angles lie on the _____ sides of transversal.

- a. same side b. opposite side c. both a and b d. none of these

4. When a transversal intersects two lines in a plane, _____ angles are formed?

- a. 4 b. 6 c. 8 d. 10

5. In this figure which line is a transversal to the other given lines?

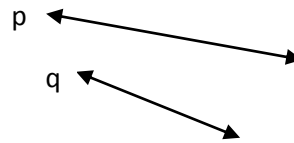
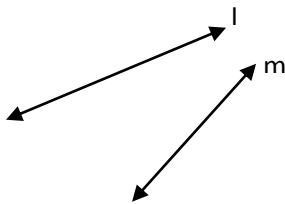


- a. l b. m
c. t d. none of these

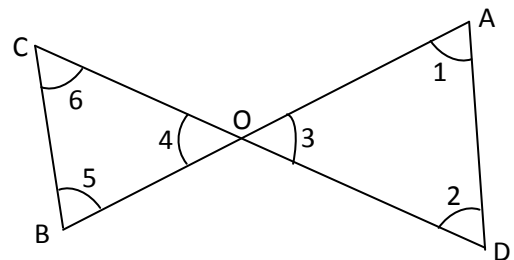
SEC-B (2 marks each)

6. Give two examples of parallel lines from your environment.

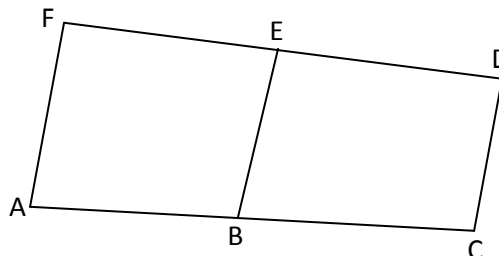
7. Are the following pairs of lines parallel? If not, why?



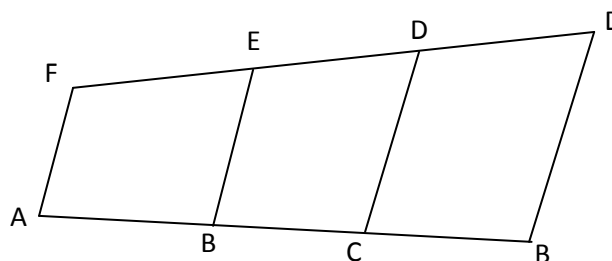
8. How many pairs of alternate angles are there?



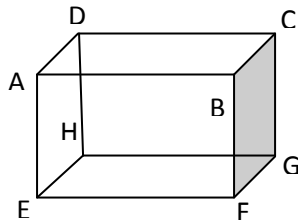
9. Name all the transversals to the segments AC and FD



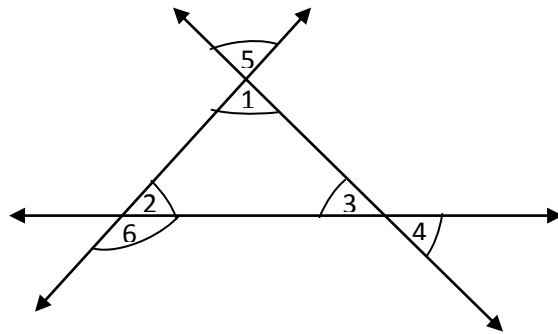
10. Identify parallel line segments in the figure –



11. Name any two pairs of parallel edges in the following cube.



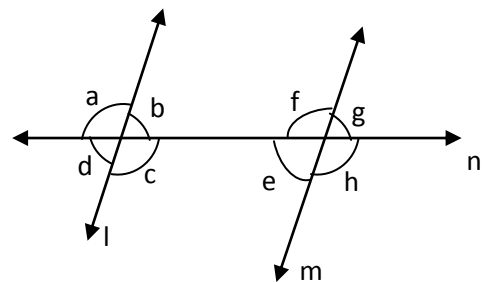
11. In the given figure name the angle alternate to $\angle 3$.



SEC-C (4 marks each)

12. Look at the figure and name the

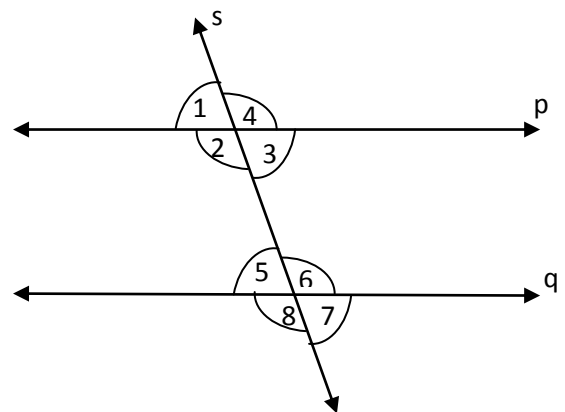
- angle corresponding to $\angle f$
- angle alternate to $\angle a$
- angle alternate to $\angle d$
- angle corresponding to $\angle c$



13. In the given figure, lines p and q are intersected by a transversal s.

Find the pairs of:

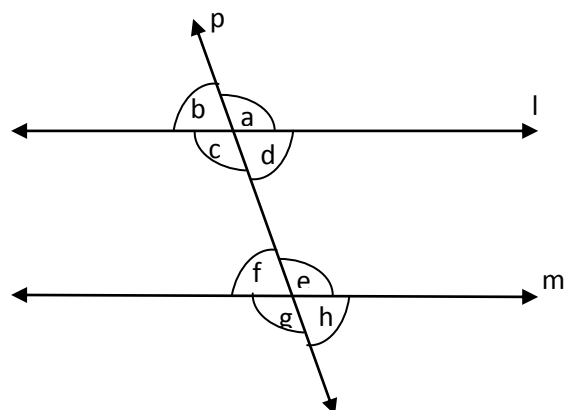
- corresponding angles.
- Alternate interior angles.



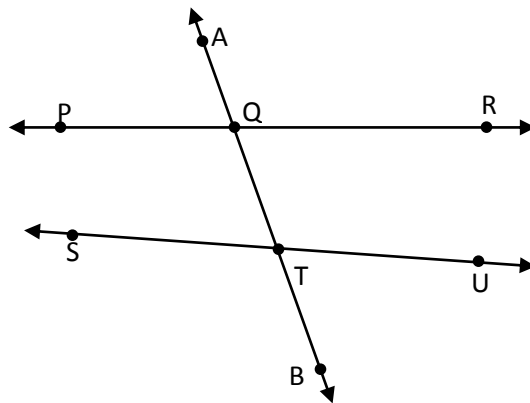
14. In the given figure, lines l and m are intersected by a transversal 'p'.

Identify the following angles.

- alternate angles of $\angle a$ and $\angle c$
- corresponding angles of $\angle b$ and $\angle d$
- all the interior angles.
- all the exterior angles.



15. In the given figure, are $\angle PQT$ and $\angle RQT$ alternate interior angle? If no what is this pair of angles called?



13.Circle

1.Plane figure which is not made of any line segment is called –

- a. square b. triangle c. circle d. rectangle

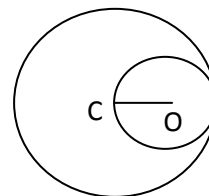
2. Number of diameters that can be drawn in a circle –

- a. one b. two c. many d. three

3. In the given figure if radius of inner circle is 2cm,

the diameter of the outer circle will be –

- a. 4cm b. 8cm
c. 6cm d. 10 cm



4.Any part of a circle is called an _____ of the circle.

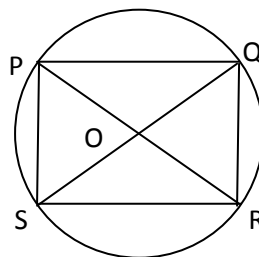
- a. arc b. semi circle c. diameters d. radius

5. How many radius are there in a circle.

- a. one b. two c. many d. three

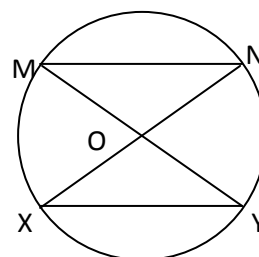
6.Name three objects that can be used to draw a circle.

7. Name all the radii, diameters and chords in this circle.



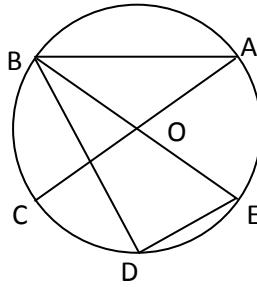
8. In this circle,

- a. MN and XY are _____.
b. XN and MY are _____.
c. OX and OM are _____.



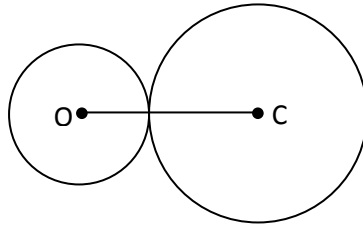
8. Observe the given circle and answer the following questions.

- Name the centre.
- Name a semi – circle.
- Name any one diameter.
- Name all the chords



9. If length of a chord passing through the centre of the circle is 10 cm, what is the radius of the circle?

10. If two circles of centres O and C with radii 2cm and 3cm touch externally, what is the distance between their centres?



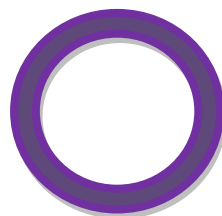
11. Construct a circle of any radius and draw the following in it.

- Centre O
- Diameter AB
- Radius OX
- Chord AY
- Any arc XYZ

12. Write 'True' or 'False' for the following statements.

- Each radius of a circle is also a chord of the circle.
- All chords of a circle are of equal length.
- Diameter is the longest chord of a circle.
- The centre of a circle bisects each chord of the circle.
- Semi – circle is an arc of the circle.

13. What will be the width of the following circular race track with inner diameter 10cm and outer diameter 14cm?



14. Draw a circle whose radius is 4.7 cm.
15. Draw a circle whose diameter is 8.4cm.
16. Draw a circle whose diameter is 5.4cm. Also draw its radius and measure it.
17. Draw a circle of radius 5.2cm. Draw its diameter and measure it.
18. Draw a line segment PQ of length 7cm. At P, draw a circle of radius 4cm. At Q draw a circle of radius 3cm. What do you observe?
19. Draw a line segment XY of length 8cm. At X, draw a circle of radius 5 cm. At Y, draw a circle of radius 3.8 cm. What do you observe?
20. Draw a circle with centre O and radius 4cm. Draw a chord AB of the circle. Indicate by marking points X and Y, the minor arc AXB and the major arc AYB of the circle.

14. Constructions

Choose the correct option:

1. The number of perpendicular bisectors a segment can have is
 - a) 0
 - b) 1
 - c) 3
 - d) 10
2. The bisector of an angle always divide it into _____ angles
 - a) Acute
 - b) Obtuse
 - c) Equal
 - d) Right
3. The angle that cannot be constructed using ruler and compasses, is –
 - a. 30°
 - b. 45°
 - c. 75°
 - d. 70°
4. Two lines perpendicular to the same line will always _____
 - a. intersecting each other
 - b. be concurrent lines
 - c. be parallel to each other
 - d. overlap each other.
5. We get the angle of measure 11.25° by bisecting the angle –
 - a. 22°
 - b. 45°
 - c. 40°
 - d. 22.5°
6. The perpendicular bisector of any chord of a circle passes through the _____ of the circle.
7. Draw a line segment XY equal to 8 cm using compasses and ruler construct its perpendicular bisector.
8. With same centre as O draw three circles of radii 3 cm, 5cm and 6 cm
9. Draw PQ of length 9 cm. From this cut off PA = 3 cm and BQ = 4 cm. Now, Find the length of AB.

10. Draw a line segment XY of any length. Now without measuring it, draw a copy of XY.
11. Draw a line segment PQ equal to 7 cm. Using ruler and compasses, obtain a line segment of length $\frac{1}{2}$ PQ. Measure each part.
12. Draw $\angle ABC = 90^\circ$ and construct its bisector.
13. Draw a circle of radius of 5.2 cm. Draw any two of its chords. Construct the perpendicular bisector of these chords. Where do they meet?
14. Draw a line segment PQ = 6cm. Mark any point M on it. Through M, draw a perpendicular to PQ using ruler and compasses.
15. Draw a line segment AB = 7.2 cm. Take a point C outside AB. Through C draw a perpendicular to AB using ruler and compass.
16. Draw an $\angle XYZ$ equal to 90° . Using the compasses and ruler, draw YO the bisector of $\angle XYZ$. Measure $\angle XYO$ and $\angle ZYO$. Are they equal?
17. Construct an angle of 45° using compasses and ruler. Now construct an angle of measure 22.5° using compasses.
18. Draw a line segment XY of length 8cm. At X and Y, draw perpendiculars to XY using compasses and ruler. Are the lines parallel to each other?
19. Draw a line PQ. Take a point M outside it. Through M, draw a line parallel to PQ using compasses and ruler.
20. Construct an $\angle ABC$ of 150° using ruler and compasses and draw the angle bisector BD of $\angle ABC$. Mark points P, Q, R in the angular region of the bisector of angle 150° , i.e. $\angle ABD$. Also mark points S, T, U in its exterior.

15. Perimeter and Area

1. Find perimeter of rectangle whose length = 6m 8dm and breadth = 4m 6dm
2. Find the cost of fencing rectangle field 24m long and 18m wide at Rs. 6.25 per meter.
3. Find the circumference of circle if $r = 14$ cm
4. Find the diameter of circle if circumference is 66 cm
5. Find the circumference of circle if diameter of circle is 10m.
6. Find the radius of circle if circumference is 66cm
7. Find perimeter of square field whose side is 6.3m
8. The length and breadth of rectangle field are in ratio 3:2. The cost of fencing the field at Rs. 6.50 per m is Rs. 520. Find the dimensions of the field.
9. The cost of putting fence around a square field at Rs. 15 per m is Rs. 432. Find the length of each side of the field.

10. The diameter of wheel of a car is 70 cm. Find the distance travel by wheel of car in 1000 revolutions.
11. Find the area of a rectangle whose length and breadth 45cm and 16cm respectively. Also find perimeter of rectangle
12. A room is 5m 40cm long and 3m 75cm wide. Find the area of the carpet needed to cover the floor.
13. A lane, 150m by 9m is paved with bricks of length 22.5cm and breadth 7.5cm. Find the number of bricks required.
14. The total cost of flooring a room at Rs. 8.50 per sq metre is Rs. 510. If the length of the room is 8m. Find its breadth.
15. A room is 13m long and 9m broad. Find the cost of carpeting the room with a carpet 75cm broad at the rate of Rs. 6.50 per metre.
16. The length and breadth of rectangle field are in ratio 5:3. If its perimeter is 64m. Find the dimensions. 4. The cost of fencing a rectangle field at Rs. 14.60 per m is 1606. If the width of the field is 23m find its length.
17. The length and breadth of a play ground are 62m60cm and 25m40cm respectively. Find the cost of turfing at Rs. 2.50 per square meter .How long man take to go three times around the field if he walks at the rate of 2 metre per second
18. A room is 9.68m long and 6.3m wide. Its floor is to be covered with rectangular tiles of size 22cm by 10cm. Find the total cost of the tiles at Rs. 5 per tiles.
19. Two plots have same perimeter. One is a square of side 64m and other is rectangle of length 70m and breadth 58m which field has greater area and by how much.
20. Find the cost of cultivating a rectangular field at Rs. 1.50 per sq metre is Rs. 1833. If breadth of field is 26 m . Find the cost of fencing at Rs. 7.50 per metre.

TRIANGLES

SEC-A (1 mark each)

Q1. Explain the following terms:

- i) Triangle
- ii) Scalene triangle
- iii) Equilateral triangle
- iv) Interior of a triangle
- v) Elements of a triangle

1. Which of the following can be angles of a triangle?

- a. 40° , 30° , 45° b. 35° , 50° , 70° c. 65° , 100° , 95° d. 30° , 55° , 95°

2. The side opposite to the vertex P of triangle PQR is –

- a. QR b. PQ c. PZ d. QP

3. Vertex opposite to the side XZ of triangle XYZ is –

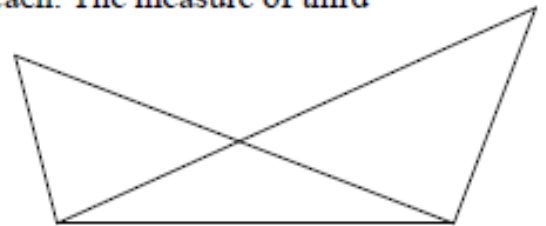
- a. X b. Y c. Z d. None of these.

4. A triangle can have _____ exterior angles.

- a. 6 b. 4 c. 3 d. 2

5. Two equal angles of a triangle are of measure 70° each. The measure of third angle is –

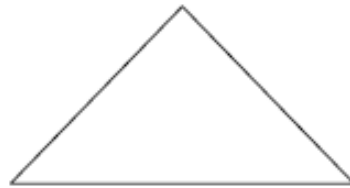
- a. 20° b. 50° c. 40° d. 60°



SEC-B (2 marks each)

- 6) What is the difference between a triangle and triangular region?
- 7) One of the right angled triangle is 40° . Find the other angles of the triangle.
- 8) Can you construct a triangle using line segment of the following length 7cm, 6cm, 12cm.
- 9) Can you construct a triangle with angles of measure 70° , 40° , 60° .
- 10) All equilateral triangles are isosceles, but not all isosceles triangles are equilateral. Why ?

11. You are given a triangle here.
Construct a line segment whose
length is equal to the sum
of all the three sides of this triangle.



12. Is it possible to construct a triangle with line segments of length 5cm, 7cm and 12cm? Why?
13. Can we construct a triangle with angles of measure 70° , 40° , and 60° ? Why or Why not?
14. Two angles of a triangle measure 30° and 55° respectively. Find the measure of the third angle. Also state what type of a triangle is it.
15. Draw any triangle ABC and mark the points –
a. X, Y in the interior of the ΔABC b. R, S in the exterior of the ΔABC .
16. What do you mean by a triangular region?
17. One of the angles of a right angled triangle is 40° . Find the measure of the third angle.
Also state what type of a triangle is it.
18. Find the angles of a triangle which are in the ratio 2 : 3 : 4.

SECTION - C (4- marks each)

19. Show that in an isosceles triangle, angles opposite to equal sides are equal.
20. Show that the bisector of the vertical angle of an isosceles triangle bisects the base at right angles.

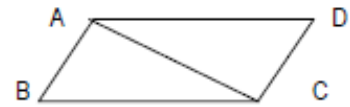
21. In the adjoining figure

$AB \parallel DC$ and $AB = DC$

(i) Is $\angle BAC = \angle DCA$

(ii) Is $\triangle ABC \cong \triangle CDA$ SAS congruence condition .

(iii) State the three facts used to answer (ii)

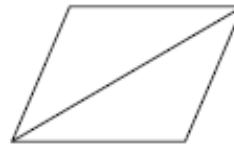


Two students used to make poster of above figure. One writes CLEAN INDIA and other writes SAVE TREES SAVE NATION .Which type of information depicted by the students.

22. show that the bisector of the vertical angle of an isosceles triangle bisects the base at right angle.

23. AD, BE and CF, the altitudes of $\triangle ABC$ are equal .

Prove that $\triangle ABC$ is an equilateral triangle



24. In this figure , $AB \parallel DC$ and $AB = DC$.

25. A group of four children were given a project where they were asked to bring some eco – friendly fibres. Neha forgot to bring the fibre and was upset. Two of her friends Sneha and Swati shared their fibres with Neha. Sneha gave 16.5 cm of fibre and Swati gave 8.5 cm of fibre to her.

a. How much more fibre did Sneha give to Neha than Swati? Construct the line segment representing this length.

b. What value is exhibited by the children?

26. Fill in the blanks:

a. A triangle has _____ sides, _____ angles and _____ vertices.

b. The three _____ of a triangle are non – collinear.

c. Each angle of an equilateral triangle measures _____.

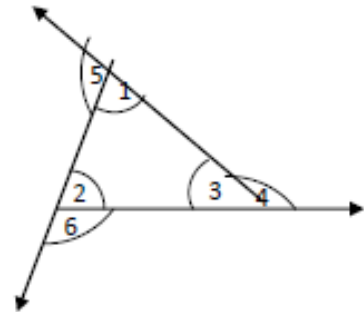
d. The other two angles of right angled triangle are _____.

27. Write 'True' or 'False'

a. The sum of three angles of a triangle is always equal to 180° .

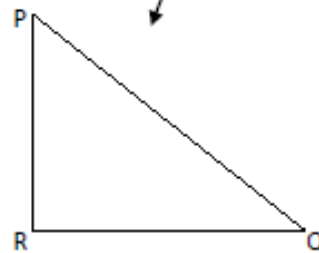
- b. A triangle whose all the three sides are different in length is called an isosceles triangle.
- c. A triangles can have all the three angles more than 60° .
- d. A triangles can have two of its angles more than 90° .

28. Name all the exterior angles in the given triangle.



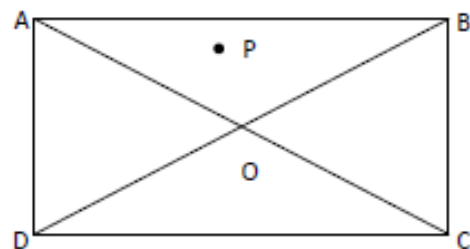
29. In the given triangle, name the –

- a. vertex opposite to side QR.
- b. side opposite to vertex Q
- c. side opposite to vertex R
- d. vertex opposite to side PQ.



30. In the given figure, name the –

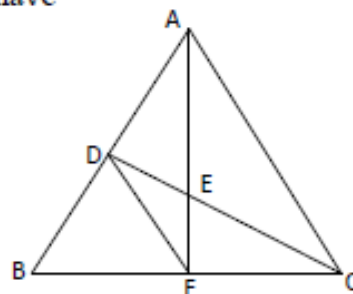
- a. all the triangles formed.
- b. the triangles which have the point P in its exterior.



- c. the triangles which have the point P in its interior.

31. In the given figure, name the triangles which have –

- a. A as one vertex (any two)
- b. E as one vertex (any two)
- c. DF as one side (any two)
- d. BC as one side (any two)



Circles

Q1. Explain the following terms:

(1MARK)

- i) Circle
- ii) Centre
- iii) Diameter
- iv) Chord
- v) Interior of circle

1. Plane figure which is not made of any line segment is called –

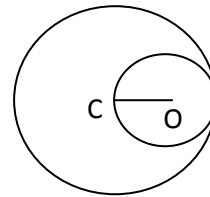
- a. square b. triangle c. circle d. rectangle

2. Number of diameters that can be drawn in a circle –

- a. one b. two c. many d. three

3. In the given figure if radius of inner circle is 2cm,
the diameter of the outer circle will be –

- a. 4cm b. 8cm
c. 6cm d. 10 cm



4. Any part of a circle is called an _____ of the circle.

- a. arc b. semi circle c. diameters d. radius

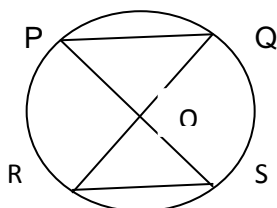
5. How many radius are there in a circle.

- a. one b. two c. many d. three

Q2. Answer the following:

(2mark)

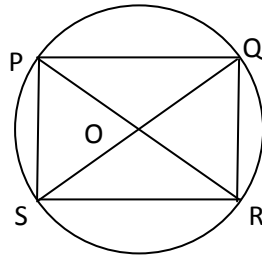
- i) Draw a semi-circle with centre O and radius 5 cm. Is the diameter that determines the semi-circle, part of the semi-circle?
- ii) Given a circle with centre O and radius 2.5 cm, what is the length of the longest chord of the circle.
- iii) Draw a circle with centre O and radius 6 cm. Mark point P,Q such that:
 - a) P lies on the circle
 - b) Q lies in the interior of the circle
- iv) What is the difference between segment and sector of a circle?
- v) In the following fig., O is the centre of the circle with $OP = 4$. Find QR.



6. Name three objects that can be used to draw a circle.

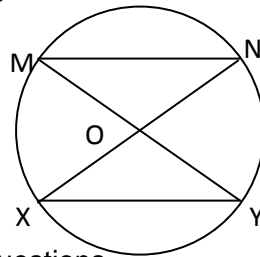
3 mark

7. Name all the radii, diameters and chords in this circle.



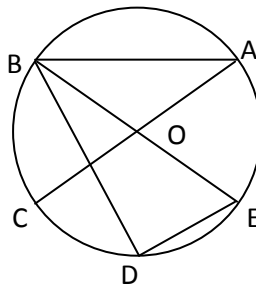
8. In this circle,

- MN and XY are _____.
- XN and MY are _____.
- OX and OM are _____.



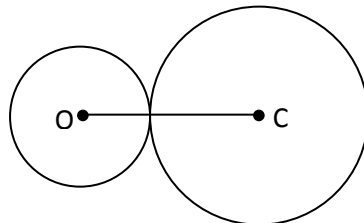
8. Observe the given circle and answer the following questions.

- Name the centre.
- Name a semi – circle.
- Name any one diameter.
- Name all the chords



9. If length of a chord passing through the centre of the circle is 10 cm, what is the radius of the circle?

10. If two circles of centres O and C with radii 2cm and 3cm touch externally, what is the distance between their centres?



11. Construct a circle of any radius and draw the following in it.

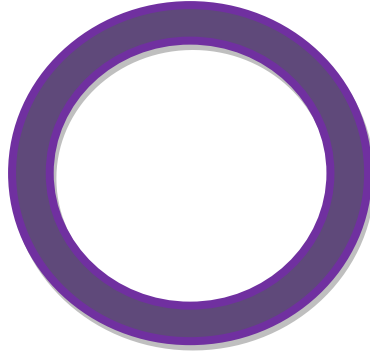
4 marks

- Centre O
- Diameter AB
- Radius OX
- Chord AY
- Any arc XYZ

12. Write 'True' or 'False' for the following statements.

- Each radius of a circle is also a chord of the circle.
- All chords of a circle are of equal length.

- c. Diameter is the longest chord of a circle.
 - d. The centre of a circle bisects each chord of the circle.
 - e. Semi – circle is an arc of the circle.
13. What will be the width of the following circular race track with inner diameter 10cm and outer diameter 14cm?



14. Draw a circle whose radius is 4.7 cm.
15. Draw a circle whose diameter is 8.4cm.
16. Draw a circle whose diameter is 5.4cm. Also draw its radius and measure it.
17. Draw a circle of radius 5.2cm. Draw its diameter and measure it.
18. Draw a line segment PQ of length 7cm. At P, draw a circle of radius 4cm. At Q draw a circle of radius 3cm. What do you observe?
19. Draw a line segment XY of length 8cm. At X, draw a circle of radius 5 cm. At Y, draw a circle of radius 3.8 cm. What do you observe?
20. Draw a circle with centre O and radius 4cm. Draw a chord AB of the circle. Indicate by marking points X and Y, the minor arc AXB and the major arc AYB of the circle.

UNIT—14

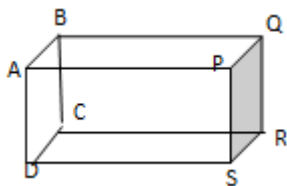
SECTION – A (1 mark each)

1. A triangular pyramid has _____ number of edges.
 (a) 4 (b) 6 (c) 8 (d) 2
2. Which of the following solid has 8 edge?
 (a) cube (b) cuboids (c) square pyramid (d) prism
3. Number of edges of a square base pyramid is _____ .
 (a) 8 (b) 7 (c) 6 (d) 5
- 4) The net for a cylinder without top and bottom is
 a) triangle b) circle c) rectangle d) none of these
5. A sphere has dimensions.
 a) one b) Two c) Three d) None of these

6. All the faces of a cuboid are
 a) Triangle b) Rectangle c) Squared) Pentagon
7. A Solid has 7 faces & 15 edges. Find the number of vertices.
 a) 12 b) 10 c) 14 d) 13
8. How many dimensions of a solid has
 a) 2 b) 4 c) 3 d) none of these
- 9..All the side faces of a pyramid are
 a)triangular b)square c) rectangle d)pentagonal
10. The other name of a tetrahedron is
 (a) Triangular pyramid (c) Rectangular pyramid
 (b) Square pyramid (d) None of these
- 11) A sphere has how many edges
 (a) 0 (b) 1 (c) 2 (d) 3

SECTION – B (2- marks each)

1. Draw the net of a cube.
2. Write the numbers of vertices, edges, and faces of a tetrahedron.
3. Name all the edges and faces of cuboids.



4. How many vertices, edges and faces will a cube have ? what is the shape of each face?
5. Define a tetrahedron. Also draw the figure of a tetrahedron
6. How many faces and edges do the following shapes have.
 a) cone b) Cube
7. Draw the net to get a triangular prism.
8. Draw the net to get a rectangular pyramid.
9. How many faces and edges do the following shapes have:
 (i) cuboid (ii) cylinder

10. How many faces and edges do the following shapes have ?

- a) cube b) cylinder

11. Draw two different nets to get a cube.

12. What do you mean by a triangular pyramid ?

Draw a tetrahedron solid show its four faces as triangles. Name its four vertices also.

13. The number of perpendicular bisectors a segment can have is

- a) 0 b) 1 c) 3 d) 10

14. The bisector of an angle always divide it into _____ angles

- a) Acute b) Obtuse c) Equal d) Right

15. The angle that cannot be constructed using ruler and compasses, is –

- a. 30° b. 45° c. 75° d. 70°

16. Two lines perpendicular to the same line will always _____

- a. intersecting each other b. be concurrent lines
c. be parallel to each other d. overlap each other.

17. We get the angle of measure 11.25° by bisecting the angle –

- a. 22° b. 45° c. 40° d. 22.5°

18. The perpendicular bisector of any chord of a circle passes through the _____ of the circle.

- a) centre b) cord c) diameter d) None of these

Section B – 2 marks

19. Construct an angle of 30° using compasses.

20. Construct the angle 110° by using protractor

21. Construct the angle 78° by using protector. Also name them.

22. Construct an angle of measure 90° , by using compasses.

23. Draw an $\angle ABC$ of any measure. Now using compasses, draw another $\angle XYZ$ equal to $\angle ABC$.

i) Construct an angle of 60° with the help of compasses and bisect it by paper folding.

ii) Construct an angle of 105° with the help of ruler and compasses only.

iii) Construct a rectangle whose adjacent sides are 8 cm and 3 cm.

iv) Construct a circle of diameter 6.3 cm.

v) Draw a line segment of length 6 cm and construct its perpendicular bisector.

24. Draw a line segment XY equal to 8 cm using compasses and ruler construct its perpendicular bisector.

25. With same centre as O draw three circles of radii 3 cm, 5 cm and 6 cm

26. Draw PQ of length 9 cm. From this cut off $PA = 3$ cm and $BQ = 4$ cm. Now, Find the length of AB.

27. Draw a line segment XY of any length. Now without measuring it, draw a copy of XY.
28. Draw a line segment PQ equal to 7 cm. Using ruler and compasses, obtain a line segment of length $\frac{1}{2}$ PQ. Measure each part.
29. Draw $\angle ABC = 90^\circ$ and construct its bisector.

Section C – 3 marks

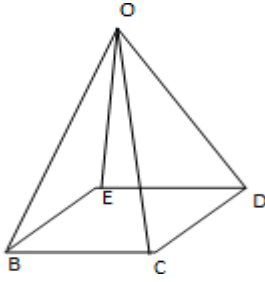
30. Draw a line AB equal to 10 cm. Mark a point X such that AX is equal to 6 cm. Draw a line through X perpendicular to AB using compasses and ruler.
31. Draw a line segment PQ equal to 7 cm. Using ruler and compasses, obtain a line segment of length $\frac{1}{2}$ PQ. Measure each part.
32. Draw a line AB. Take a point C outside it, through C, draw a line parallel to AB using compasses and ruler.
 - i) Draw the perpendicular bisector of a line segment XY whose length is 11.2 cm.
 - a) Take any point P on the right bisector drawn. Examine whether $PX = PY$.
 - b) If M is the mid point of XY, what relation is there between the length MX and XY?
 - ii) Draw a circle of radius 5.4 cm and draw any two chords in it. Construct the perpendicular bisectors of these chords.
 - iii) Draw a line segment AB, 10 cm long. Use ruler and compass to divide AB into four equal parts. What is the length of each part.

SECTION – C (4 - marks each)

33. Draw a square pyramid (ABCDE) of any measurement. Find out how many faces does it have?
34. Draw a net of square pyramid and cube.
35. Draw a cube surmounted by a pyramid. Find number of faces, edges and vertices.
36. Sketch a cuboid of size $3 \times 3 \times 2$ in a squared paper.
37. Draw an isometric sketch for a cuboid of dimensions $4 \times 3 \times 2$.
38. Draw nets for a square pyramids.
39. How many faces and edges do the following shapes have?

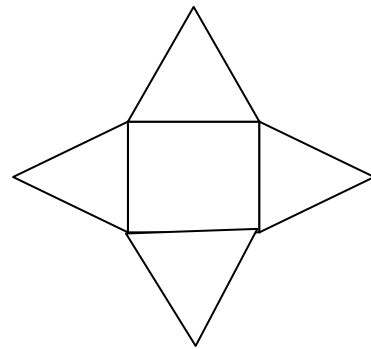
- a- Cuboid
- b- Sphere

40. The base of the given pyramid is a square BCDE



- i) How many more faces does it have ?
- ii) What is the shape of other faces ?
- iii) Name all the vertices and edges of the given pyramid

41. Fold the net to get a solid.



- a) What is the solid known as ?
- b) Draw a cube and show its 8 vertices.

42. Draw a circle of radius of 5.2 cm. Draw any two of its chords. Construct the perpendicular bisector of these chords. Where do they meet?

43. Draw a line segment $PQ = 6\text{cm}$. Mark any point M on it. Through M , draw a perpendicular to PQ using ruler and compasses.

44. Draw a line segment $AB = 7.2\text{ cm}$. Take a point C outside AB . Through C draw a perpendicular to AB using ruler and compass.

45. Draw an $\angle XYZ$ equal to 90° . Using the compasses and ruler, draw YO the bisector of $\angle XYZ$. Measure $\angle XYO$ and $\angle ZYO$. Are they equal?

46. Construct an angle of 45° using compasses and ruler. Now construct an angle of measure 22.5° using compasses.

47. Draw a line segment XY of length 8cm . At X and Y , draw perpendiculars to XY using compasses and ruler. Are the lines parallel to each other?

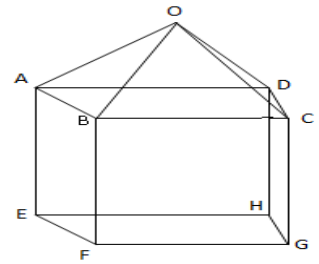
48. Draw a line PQ . Take a point M outside it. Through M , draw a line parallel to PQ using compasses and ruler.

49. Construct an $\angle ABC$ of 150° using ruler and compasses and draw the angle bisector BD of $\angle ABC$. Mark

points P,Q, R in the angular region of the bisector of angle 150° , i.e. $\angle ABD$. Also mark points S, T, U in its exterior.

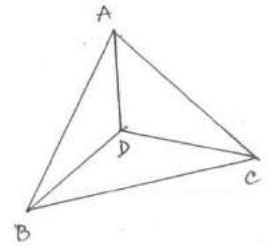
SECTION – D (6- marks each)

1. This figure shows a cube surmounted by a pyramid.
 - i) How many faces, edges and vertices does it have?
 - ii) Name its edges , faces and vertices.
 - iii) Write the number of triangular faces and square faces.



2. (i)What is the given figure called ?

- (ii) How many edges, vertices and faces does it have?
- (iii)Name its faces edges and vertices.
- (iv) The faces are of which shape?



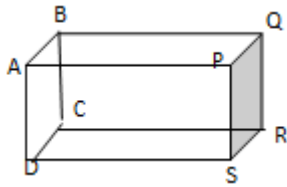
UNIT—14

SECTION – A (1 mark each)

1. A triangular pyramid has _____ number of edges.
(a) 4 (b) 6 (c) 8 (d) 2
2. Which of the following solid has 8 edge?
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3. Number of edges of a square base pyramid is _____ .
(a) 8 (b) 7 (c) 6 (d) 5
- 4) The net for a cylinder without top and bottom is
a) triangle b) circle c) rectangle d) none of these
5. A sphere has dimensions.
a) one b) Two c) Three d) None of these
6. All the faces of a cuboid are
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7. A Solid has 7 faces & 15 edges. Find the number of vertices.
a) 12 b) 10 c) 14 d) 13
8. How many dimensions of a solid has
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- 9..All the side faces of a pyramid are
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10. The other name of a tetrahedron is
(b) Triangular pyramid (c) Rectangular pyramid
(b)Square pyramid (d) None of these
- 11) A sphere has how many edges
(a) 0 (b) 1 (c) 2 (d) 3

SECTION – B (2- marks each)

1. Draw the net of a cube.
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3. Name all the edges and faces of cuboids.



4. How many vertices, edges and faces will a cube have ? what is the shape of each face?
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10. How many faces and edges do the following shapes have ?
- a) cube b) cylinder
11. Draw two different net to get a cube.
12. What do you mean by a triangular pyramid ?
- Draw a tetrahedron solid show its four faces as triangles. Name its four vertices also.
13. The number of perpendicular bisectors a segment can have is
- a) 0 b) 1 c) 3 d) 10
14. The bisector of an angle always divide it into _____ angles
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15. The angle that cannot be constructed using ruler and compasses, is –
- a. 30° b. 45° c. 75° d. 70°
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- c. be parallel to each other d. overlap each other.
17. We get the angle of measure 11.25° by bisecting the angle –
- a. 22° b. 45° c. 40° d. 22.5°
18. The perpendicular bisector of any chord of a circle passes through the _____ of the circle.
- a) centre b) cord c) diameter d) None of these

Section B – 2 marks

19. Construct an angle of 30° using compasses.
20. Construct the angle 110° by using protractor
21. Construct the angle 78° by using protector. Also name them.
22. Construct an angle of measure 90° , by using compasses.
23. Draw an $\angle ABC$ of any measure. Now using compasses, draw another $\angle XYZ$ equal to $\angle ABC$.
 - i) Construct an angle of 60° with the help of compasses and bisect it by paper folding.
 - ii) Construct an angle of 105° with the help of ruler and compasses only.
 - iii) Construct a rectangle whose adjacent sides are 8 cm and 3 cm.
 - iv) Construct a circle of diameter 6.3 cm.
 - v) Draw a line segment of length 6 cm and construct its perpendicular bisector.
24. Draw a line segment XY equal to 8 cm using compasses and ruler construct its perpendicular bisector.
25. With same centre as O draw three circles of radii 3 cm, 5 cm and 6 cm
26. Draw PQ of length 9 cm. From this cut off $PA = 3$ cm and $BQ = 4$ cm. Now, Find the length of AB.
27. Draw a line segment XY of any length. Now without measuring it, draw a copy of XY.
28. Draw a line segment PQ equal to 7 cm. Using ruler and compasses, obtain a line segment of length $\frac{1}{2}$ PQ. Measure each part.
29. Draw $\angle ABC = 90^\circ$ and construct its bisector.

Section C – 3 marks

30. Draw a line AB equal to 10 cm. Mark a point X such that AX is equal to 6 cm. Draw a line through X perpendicular to AB using compasses and ruler.
31. Draw a line segment PQ equal to 7 cm. using ruler and compasses, obtain a line segment of length $\frac{1}{2}$ PQ. Measure each part.
32. Draw a line AB. Take a point C outside it, through C, draw a line parallel to AB using compasses and ruler
 - i) Draw the perpendicular bisector of a line segment XY whose length is 11.2 cm.
 - a) Take any point P on the right bisector drawn. Examine whether $PX = PY$.
 - b) If M is the mid point of XY, what relation is there between the length MX and XY?
 - ii) Draw a circle of radius 5.4 cm and draw any two chords in it. Construct the perpendicular bisector

these chords.

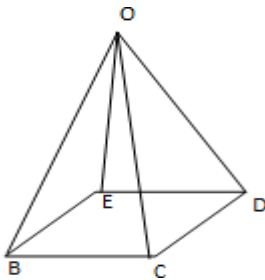
- iii) Draw a line segment AB, 10 cm long. Use ruler and compass to divide AB into four equal parts. What is the length of each part.

SECTION – C (4 - marks each)

33. Draw a square pyramid (ABCDE) of any measurement. Find out how many faces does it have?
34. Draw a net of square pyramid and cube.
35. Draw a cube surmounted by a pyramid. Find number faces, edges and vertices.
36. Sketch a cuboid of size $3 \times 3 \times 2$ in a squared paper.
37. Draw an isometric sketch for a cuboid of dimensions $4 \times 3 \times 2$
38. Draw nets for a square pyramids.
39. How many faces and edges do the following shapes have?

- c- Cuboid
d- Sphere

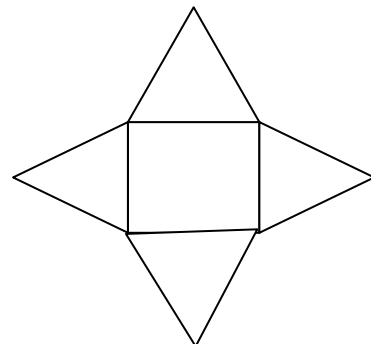
40. The base of the given pyramid is a square BCDE



- i) How many more faces does it have ?
- ii) What is the shape of other faces ?
- iii) Name all the vertices and edges of the given pyramid

41. Fold the net to get a solid.

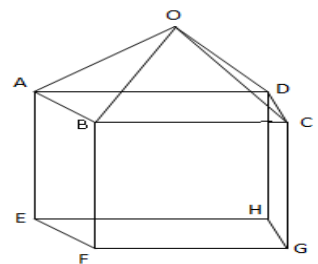
- c) What is the solid known as ?



- d) Draw a cube and show its 8 vertices.
42. Draw a circle of radius of 5.2 cm. Draw any two of its chords. Construct the perpendicular bisector of these chords. Where do they meet?
43. Draw a line segment $PQ = 6\text{cm}$. Mark any point M on it. Through M , draw a perpendicular to PQ using ruler and compasses.
44. Draw a line segment $AB = 7.2\text{ cm}$. Take a point C outside AB . Through C draw a perpendicular to AB using ruler and compass.
45. Draw an $\angle XYZ$ equal to 90° . Using the compasses and ruler, draw YO the bisector of $\angle XYZ$. Measure $\angle XYO$ and $\angle ZYO$. Are they equal?
46. Construct an angle of 45° using compasses and ruler. Now construct an angle of measure 22.5° using compasses.
47. Draw a line segment XY of length 8cm . At X and Y , draw perpendiculars to XY using compasses and ruler. Are the lines parallel to each other?
48. Draw a line PQ . Take a point M outside it. Through M , draw a line parallel to PQ using compasses and ruler.
49. Construct an $\angle ABC$ of 150° using ruler and compasses and draw the angle bisector BD of $\angle ABC$. Mark points P, Q, R in the angular region of the bisector of angle 150° , i.e. $\angle ABD$. Also mark points S, T, U in the exterior.

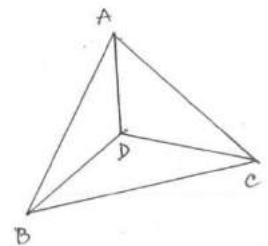
SECTION – D (6- marks each)

1. This figure shows a cube surmounted by a pyramid.
- How many faces, edges and vertices does it have?
 - Name its edges, faces and vertices.
 - Write the number of triangular faces and square faces.



2. (i) What is the given figure called ?

- How many edges, vertices and faces does it have?
- Name its faces edges and vertices.
- The faces are of which shape?



CONSTRUCTION

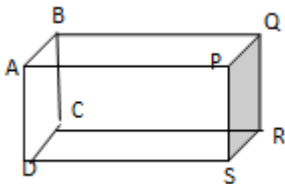
UNIT—14

SECTION – A (1 mark each)

1. A triangular pyramid has _____ number of edges.
(a) 4 (b) 6 (c) 8 (d) 2
2. Which of the following solid has 8 edge?
(a) cube (b) cuboids (c) square pyramid (d) prism
3. Number of edges of a square base pyramid is _____ .
(a) 8 (b) 7 (c) 6 (d) 5
- 4) The net for a cylinder without top and bottom is
a) triangle b) circle c) rectangle d) none of these
5. A sphere has dimensions.
a) one b) Two c) Three d) None of these
6. All the faces of a cuboid are
a) Triangle b) Rectangle c) Squared) Pentagon
7. A Solid has 7 faces & 15 edges. Find the number of vertices.
a) 12 b) 10 c) 14 d) 13
8. How many dimensions of a solid has
a) 2 b) 4 c) 3 d) none of these
- 9..All the side faces of a pyramid are
a)triangular b)square c) rectangle d)pentagonal
10. The other name of a tetrahedron is
(c) Triangular pyramid (c) Rectangular pyramid
(b)Square pyramid (d) None of these
- 11) A sphere has how many edges
(a) 0 (b) 1 (c) 2 (d) 3

SECTION – B (2- marks each)

1. Draw the net of a cube.
2. Write the numbers of vertices, edges, and faces of a tetrahedron.
3. Name all the edges and faces of cuboids.



4. How many vertices, edges and faces will a cube have ? what is the shape of each face?

5. Define a tetrahedron. Also draw the figure of a tetrahedron
6. How many faces and edges do the following shapes have.
 a) cone b) Cube
7. Draw the net to get a triangular prism.
8. Draw the net to get a rectangular pyramid.
9. How many faces and edges do the following shapes have:
 (i) cuboid (ii) cylinder
10. How many faces and edges do the following shapes have ?
 a) cube b) cylinder
11. Draw two different net to get a cube.
12. What do you mean by a triangular pyramid ?
 Draw a tetrahedron solid show its four faces as triangles. Name its four vertices also.
13. The number of perpendicular bisectors a segment can have is
 a) 0 b) 1 c) 3 d) 10
14. The bisector of an angle always divide it into _____ angles
 a) Acute b) Obtuse c) Equal d) Right
15. The angle that cannot be constructed using ruler and compasses, is –
 a. 30° b. 45° c. 75° d. 70°
16. Two lines perpendicular to the same line will always _____
 a. intersecting each other b. be concurrent lines
 c. be parallel to each other d. overlap each other.
17. We get the angle of measure 11.25° by bisecting the angle –
 a. 22° b. 45° c. 40° d. 22.5°
18. The perpendicular bisector of any chord of a circle passes through the _____ of the circle.
 a) centre b) cord c) diameter d) None of these

Section B – 2 marks

19. Construct an angle of 30° using compasses.
20. Construct the angle 110° by using protractor
21. Construct the angle 78° by using protector. Also name them.
22. Construct an angle of measure 90° , by using compasses.
23. Draw an $\angle ABC$ of any measure. Now using compasses, draw another $\angle XYZ$ equal to $\angle ABC$.
- i) Construct an angle of 60° with the help of compasses and bisect it by paper folding.
- ii) Construct an angle of 105° with the help of ruler and compasses only.

- iii) Construct a rectangle whose adjacent sides are 8 cm and 3 cm.
 - iv) Construct a circle of diameter 6.3 cm.
 - v) Draw a line segment of length 6 cm and construct its perpendicular bisector.
24. Draw a line segment XY equal to 8 cm using compasses and ruler construct its perpendicular bisector.
25. With same centre as O draw three circles of radii 3 cm, 5cm and 6 cm
26. Draw PQ of length 9 cm. From this cut off $PA = 3$ cm and $BQ = 4$ cm. Now, Find the length of AB.
27. Draw a line segment XY of any length. Now without measuring it, draw a copy of XY.
28. Draw a line segment PQ equal to 7 cm. Using ruler and compasses, obtain a line segment of length $\frac{1}{2}$ PQ. Measure each part.
29. Draw $\angle ABC = 90^\circ$ and construct its bisector.

Section C – 3 marks

30. Draw a line AB equal to 10 cm. Mark a point X such that AX is equal to 6 cm. Draw a line through X perpendicular to AB using compasses and ruler.
31. Draw a line segment PQ equal to 7CM. using ruler and compasses, obtain a line segment of length $\frac{1}{2}$ PQ. Measure each part.
32. Draw a line AB. Take a point C outside it, through C, draw a line parallel to AB using compasses and ruler
- i) Draw the perpendicular bisector of a line segment XY whose length is 11.2 cm.
 - a) Take any point P on the right bisector drawn. Examine whether $PX = PY$.
 - b) If M is the mid point of XY, what relation is there between the length MX and XY?
 - ii) Draw a circle of radius 5.4 cm and draw any two chords in it. Construct the perpendicular bisectors of these chords.
 - iii) Draw a line segment AB, 10 cm long. Use ruler and compass to divide AB into four equal parts. What is the length of each part.

SECTION – C (4 - marks each)

33. Draw a square pyramid (ABCDE) of any measurement. Find out how many faces does it have?
34. Draw a net of square pyramid and cube.
35. Draw a cube surmounted by a pyramid. Find number faces, edges and vertices.
36. sketch a cuboid of size $3 \times 3 \times 2$ in a squared paper.

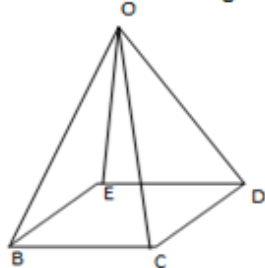
37. Draw an isometric sketch for a cuboid of dimensions 4 x 3 x 2

38. Draw nets for a square pyramids.

39. How many faces and edges do the following shapes have?

- a- Cuboid
- b- Sphere

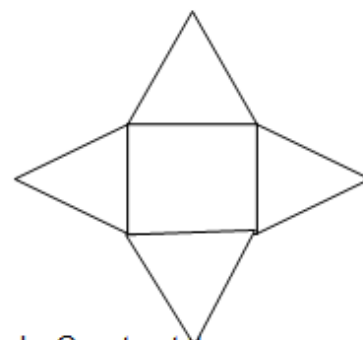
40. The base of the given pyramid is a square BCDE



- i) How many more faces does it have?
- ii) What is the shape of other faces?
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41. Fold the net to get a solid.

- a) What is the solid known as ?
- b) Draw a cube and show its 8 vertices.



42. Draw a circle of radius of 5.2 cm. Draw any two of its chords. Construct the perpendicular bisector of these chords. Where do they meet?

43. Draw a line segment PQ = 6cm. Mark any point M on it. Through M, draw a perpendicular to PQ using ruler and compasses.

44. Draw a line segment AB = 7.2 cm. Take a point C outside AB. Through C draw a perpendicular to AB using ruler and compass.

45. Draw an $\angle XYZ$ equal to 90° . Using the compasses and ruler, draw YO the bisector of $\angle XYZ$. Measure $\angle XYO$ and $\angle ZYO$. Are they equal?

46. Construct an angle of 45° using compasses and ruler. Now construct an angle of measure 22.5° using compasses.

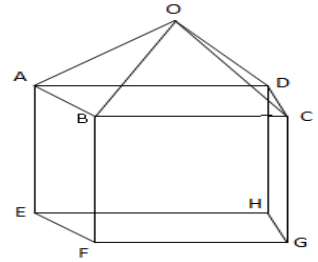
47. Draw a line segment XY of length 8cm. At X and Y, draw perpendiculars to XY using compasses and ruler. Are the lines parallel to each other?

48. Draw a line PQ. Take a point M outside it. Through M, draw a line parallel to PQ using compasses and ruler.

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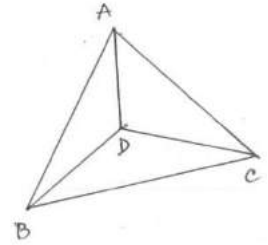
SECTION – D (6- marks each)

1. This figure shows a cube surmounted by a pyramid.
- How many faces, edges and vertices does it have?
 - Name its edges , faces and vertices.
 - Write the number of triangular faces and square faces.



2. (i)What is the given figure called ?

- How many edges, vertices and faces does it have?
- Name its faces edges and vertices.
- The faces are of which shape?



Area and perimeter

Q1. Explain the following terms:

(1 marks each)

- Find perimeters of a square with length of one side = 18mm.
- Find perimeters of a regular hexagon with one side measuring 15 cm.
- What will happen to the area of a square, if its side is tripled?
- Find the perimeter of an equilateral triangle with side 9cm.
- Find the side of square whose perimeter is 100 cm.
- Find perimeter of rectangle whose length = 6m 8dm and breadth = 4m 6dm
- Find the cost of fencing a rectangular field 24 m long and 18 m wide at Rs. 6.25 per meter.
- Find perimeter of square field whose side is 6.3 m

Q2. Answer the following:

(2marks each)

- Find the breadth of a rectangle whose length is 70 cm and perimeter is 200 cm.
- A rectangular field is 50m by 40 m. Mahesh goes 10 times round it. How much distance does he cover?
- Find the cost of fencing a square part of side 300m at the rate of Rs.20 per m.
- Find the area of a square whose side is 63 mm.
- The area of a rectangle is 240 Cm^2 its length is 20 cm, find its breadth.

Q3. Solve the following:

(3marks each)

- The perimeter of a rectangle is 230 cm. If the length of the rectangle is 70 cm, find its breadth and area.
- How many tiles whose length and breadth are 13 cm and 7 cm respectively are needed to cover a rectangular region whose length and breadth are 520 cm and 140 cm?

- iii) Find the area of the rectangle if its perimeter is 48 cm and its breadth is 6 cm.
- iv) Find the breadth and perimeter of the rectangle if its area is 96 Cm^2 and the length is 12 cm.
- v) A wire in the shape of rectangle of length 25 cm and breadth 17 cm is bent to form a square. What will be the measure of each side?

Q4. Solve the following:

(4marks each)

1. The length and breadth of a rectangular courtyard is 75 m and 32 m. Find the cost of levelling it at the rate of Rs. 3 per m^2 . Also, find the distance covered by a boy to take 4 rounds of the courtyard.
2. A floor of the room 8 m long and 6 m wide is to be covered by square tiles. If each square tile is 0.8 m, find the number of tiles required to cover the floor. Also, find the cost of tiling at the rate of Rs. 7 per tile.
3. The breadth of the rectangle is 8 cm and its diagonal is 17 cm. Find the area of the rectangle and its perimeter.
4. The length and breadth of the rectangle park are in the ratio 5:4 and its area is 2420 m^2 , find the cost of fencing the park at the rate of Rs.10 per metre.
5. How many envelopes can be made out of a sheet of paper 100 cm by 75 cm, supposing 1 envelope requires 20 cm by 5 cm piece of paper?
6. The length and breadth of rectangle field are in ratio 3:2. The cost of fencing the field at Rs. 6.50 per m is Rs. 520. Find the dimensions of the field.
7. The cost of putting fence around a square field at Rs. 15 per m is Rs. 432. Find the length of each side of the field.
8. The diameter of wheel of a car is 70 cm. Find the distance travel by wheel of car in 1000 revolutions.
9. Find the area of a rectangle whose length and breadth are 45cm and 16cm respectively. Also find perimeter of rectangle
10. A room is 5m 40cm long and 3m 75cm wide. Find the area of the carpet needed to cover the floor.
11. A lane, 150 m by 9m is paved with bricks of length 22.5 cm and breadth 7.5 cm. Find the number of bricks required.
12. The total cost of flooring a room at Rs. 8.50 per sq metre is Rs. 510. If the length of the room is 8 m. Find its breadth.
13. A room is 13 m long and 9 m broad. Find the cost of carpeting the room with a carpet 75 cm broad at the rate of Rs. 6.50 per metre.
14. The length and breadth of rectangle field are in ratio 5:3. If its perimeter is 64m. Find the dimensions.
15. 4. The cost of fencing a rectangle field at Rs. 14.60 per m is 1606. If the width of the field is 23m find its length.
16. The length and breadth of a play ground are 62m60cm and 25m40cm respectively. Find the cost of turfing at Rs. 2.50 per square meter .How long man take to go three times around the field if he walks at the rate of 2 meter per second
17. A room is 9.68m long and 6.3m wide. Its floor is to be covered with rectangular tiles of size 22 cm by 10 cm. Find the total cost of the tiles at Rs. 5 per tiles.
18. Two plots have same perimeter. One is a square of side 64m and other is rectangle of length 70m and breadth 58m which field has greater area and by how much.
19. Find the cost of cultivating a rectangular field at Rs. 1.50 per sq meter is Rs. 1833. If breadth of field is 26 m. Find the cost of fencing at Rs. 7.50 per meter.

HOTS

1. A street lane is to be paved with tiles of length 12 cm and breadth 10 cm. If the length of the lane is 240 m and its breadth is 12 m, find the number of tiles needed?

Statistics

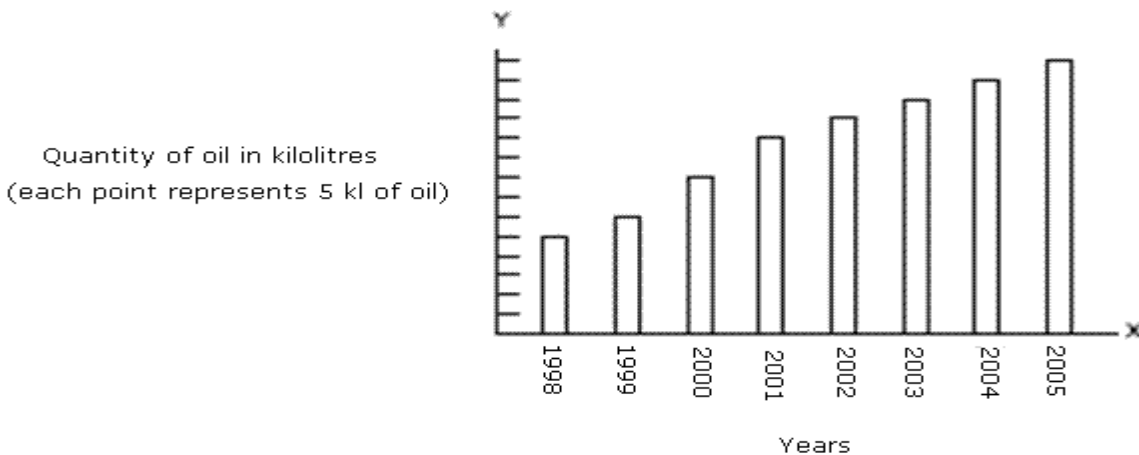
Sec-A(1 mark)

1. The collection of facts, figures, numbers etc. is called.....
2. Fill in the blanks: Pictograph represents data in form of
3. Define bar graph.
4. There are 25 students in class VI. Represent the number of students by tally marks.
5. Fill in the blanks:

The number represented by tally marks is_____.

2 marks







6. Given Bar-Graph, represent the amount of oil purchased by the government from 1998-2005, Read the Graph and give your observation under following topics:



- a) In which year maximum oil purchased ?
- b) In which year minimum oil purchased ?

4 marks










7. The following pictograph shows the number of students of class VI in a school, using the different means of transport to travel to school.

Mode of traveling	Number of students	10 students 
Private car		
Public Bus		
School Bus		
cycle		
Walking		

Find:

- (a) Number of Students coming by Car.
- (b) The Most Popular way of traveling used by the students.
- (c) Which means of transport is used by the minimum number of students
- (d) How many students are using the transport other than Car, School Bus, Cycle.









8 The number of girl students in each class of a co-educational middle school is depicted by the pictograph :

Classes	Number of gir' students	 - 4 Girls
I		
II		
III		
IV		
V		
VI		
VII		
VIII		

Observe this pictograph and answer the following questions :


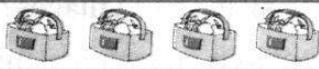
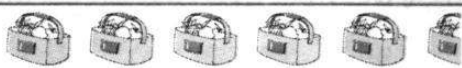

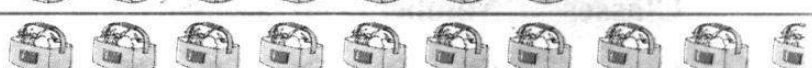
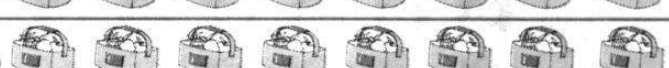

- (a) Which class has the minimum number of girl students?
- (b) Is the number of girls in Class VI less than the number of girls in Class V?

The sale of electric bulbs on different days of a week is shown below :

Days	Number of electric bulbs	 - 2 Bulbs
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

- (a) No.of bulbs manufactured on Tuesday?
- (b) Total number of bulbs manufactured in a week?

10. In a village six fruit merchants sold the following number of fruit baskets in a particular season :

Name of fruit merchants	Number of fruit baskets	 - 100 Fruit baskets
Rahim		
Lakhanpal		
Anwar		
Martin		
Ranjit Singh		
Joseph		

Observe this pictograph and answer the following questions :

- Which merchant sold the maximum number of baskets?
- How many fruit baskets were sold by Anwar?

11. The data below represents the number of Maths books sold by a shopkeeper in six days.

Day	No. of books sold
Monday	60
Tuesday	40
Wednesday	30
Thursday	50
Friday	30
Saturday	60

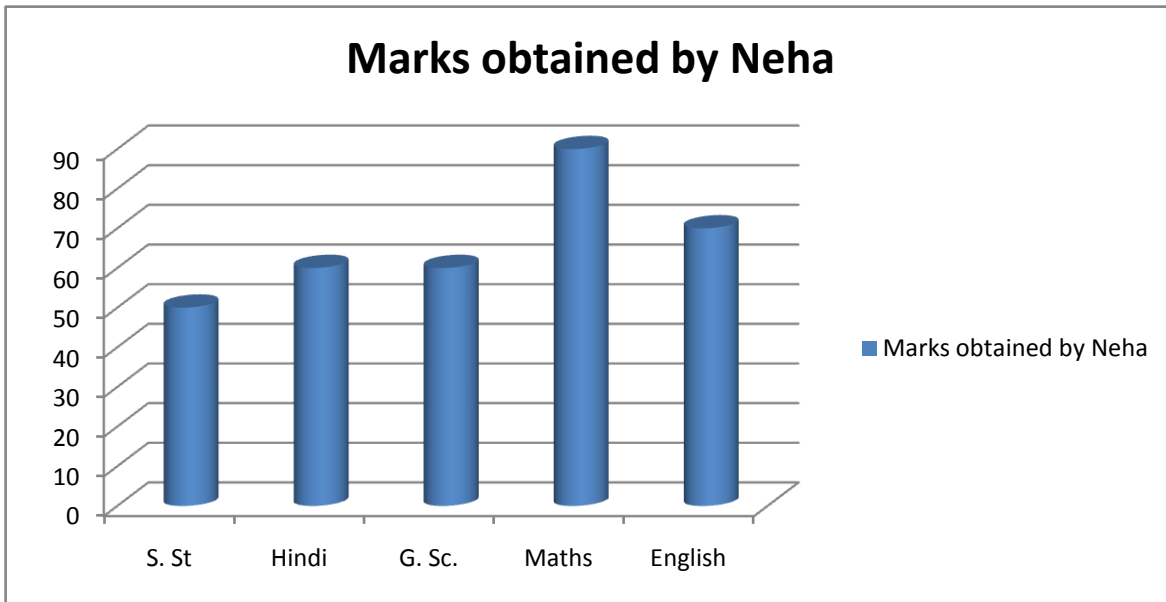
Draw a bar graph to represent the above data

12. The following table shows the circulation of newspapers in six languages.

Prepare a bar graph with a suitable scale.

Language	English	Hindi	Punjabi	Tamil	Urdu	Bengali
Number of Newspapers	1400	1600	400	800	200	600

13. Observe the bar graph showing the marks obtained by Neha in different subjects in her annual examination.



Now answer the following questions.

- What information is given by the bar graph?
- In which subject did Neha score maximum marks?
- How many marks did Neha score in –
 - Hindi
 - Maths
- In which subjects did Neha score the same number of marks?
- What is the total score of Neha in five subjects?
