Natural numbers and whole numbers

Section A – 1 mark each

1. Which is the Roman numeral of 49?
    a)XCVII   b) XLIX   c) LXXIX   d) XCI
2. What is the smallest whole number?
    a) 0   b) 1   c) 9   d) none of these   .
3 .Which one is the smallest whole number ?
    a) 3   b) 2   c) 0   d) 1
4. 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
5. ____ + XLVI = LXX.
    a) XXVI   b) XIV   c) XIV   d) XXVI
6. The Roman numerical representing the least four digit number is
    a) X   b) M   c)D   d)C

7. The predecessor of the smallest five digit number is:
    a) 9997   b) 9999   c) 9998   d) 10001
8. 947 ×   (   ) = 947.
    a) 0   b) 947   c) 1   d) 2.
9. Which is the Roman numeral of 49?
    a) XCVII   b) XLIX   c) LXXIX   d) XCI

10. What is the smallest whole number?
     a) 0   b) 1   c) 9   d) no .
11. Choose the Roman numeral for 90 + 8
     a) LXVII   b) XCVIII   c) LXXXXVIII   d) LXVIII
12. The face value of 8 in the numeral 9823745 is _____
    a) 800000   b) 8   c) 80000   d) 8000

Section B – 2 marks each

1. Convert the following into Roman Numerals.   a) 535   b) 908

2. Arrange LVII, XC, XV, LXIV, LXXI, XXIX in descending order.

3 .Write the four immediate predecessor of 5502002

4 . Write the Roman numerals of the 78 & 93.

Section C – 3 marks

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

Section D – 4 marks

1. 750×17+ 750×38+ 27×750 +18×750

2. 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 x 8 x 883 + 117 x 25 x 40.

   b) Divide and check :   2781÷ 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 X 10 X437 − 6880 X337.

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 numbers32 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, 12and 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 weather 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 ?

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) $\underline{S.I \times 100}$ b) $\underline{S.I \times 100}$ c) $\underline{S.I \times 100}$ d) None of these

      $P \times T$ $P \times R$ $T \times R$

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.

     a) How much money did Mr. Gupta get from bank?

     b) 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   (i) people who know only English

                       (ii) people who know both English and Punjabi

Basic geometrical concepts

Section A – (1 mark)

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

    a) Plane   b) angle   c) line   d) ray

2. Two lines which cut each other at a point are called------------------ lines.

    a) Curve lines   b) parallel lines   c) intersecting lines   d) straight lines.

3. 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.

4. 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

5. Which of the following can be measured?

    a) Line   b) Ray   c) Point   d) Line segment

6. How many end point does a line have ?

    a) 2   b) 0   c) 3   d) none of these

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

1.   Find the maximum and the minimum number of point of intersection of three lines in a plane.

2.   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.

3.   X, Y, Z are any three points in a plane. Join them in pairs. How many lines can you get, if

   a)   X, Y, Z are collinear?

   b)   X, Y, Z are not collinear?

Section C – 3 marks

1.   In the given figure, name the

   a) lines concurrent at D and B.

   b)Point of concurrence of lines AD, AB and AC

   c) lines concurrent at A.

2.   Give three examples each for the objects having

   a) Flat surface   b) Curved surface

   c) Parallel lines   d) Intersecting lines

3.   How many line segments are there in the given fig. Write their names.
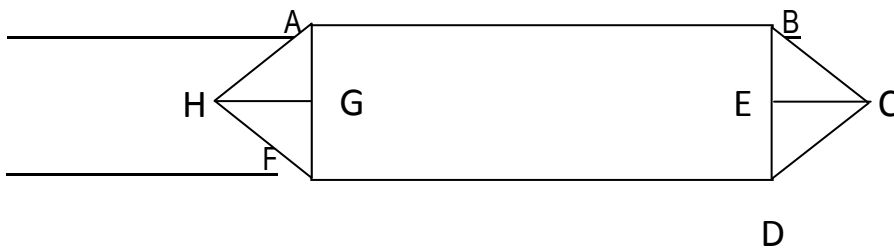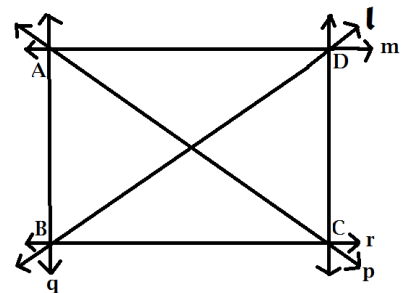
Section D – 4 marks

1.   In the figure given here, name

   a)   all the sets of collinear points,

   b)   all the points that lie in this plane,

   c)   two pairs of intersecting lines,

   d)   the lines concurrent at point G.
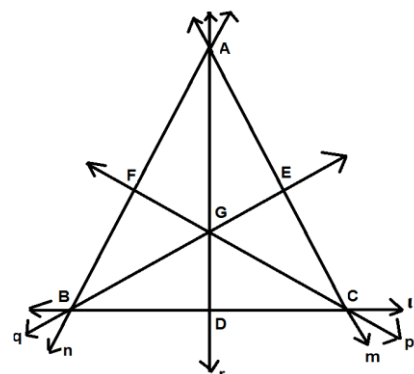
Line segments

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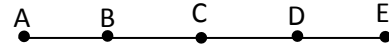
9) One end point of a line segment AB is against the mark 2 and other at mark 9 of a scale.

   What is the length of segment AB?

   a. 6cm   b. 7cm   c. 9cm   d. 11cm
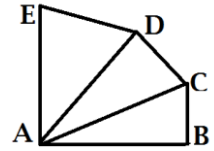
Section B – 2 marks

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=5.4cm, CD=3.2cm. 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.
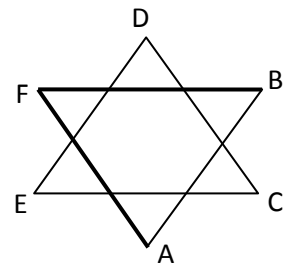
3) Construct a line segment AB of length 7.5 cm. From this line segment, cut off a line segment

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

11. In the given figure, write –

a. $AE + EC =$ _____

b. $AC - EC =$ _____

c. $BD - BE =$ _____

d . $BD - DE =$ _____
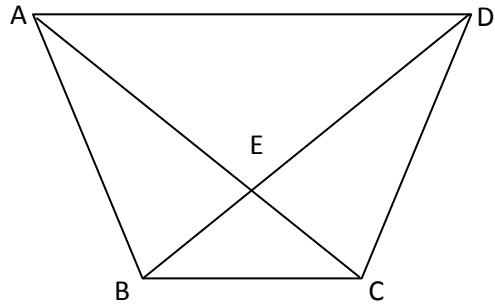
12. How many line segments are there in the given figure? Name any six.
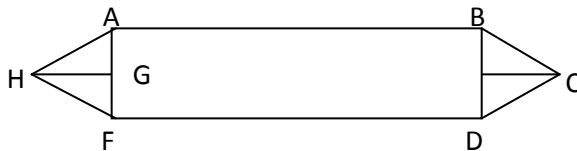
13. If AB =3.8 cm and CD =2.5 cm, construct a line segment whose length is the sum of the length of these line segment and measure it.

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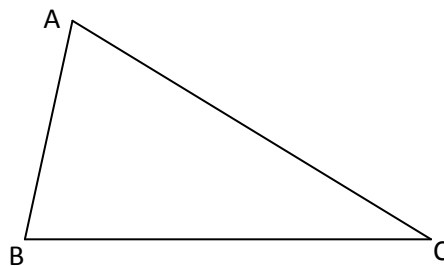
17. If AB = 4.5 cm, CD = 2.3 cm then construct the following line segments.

   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. 3/5 of a right angle =-----------------degrees.
   - a. a) 60°   b) 54°   c) 90°   d) 108°

2. Angle whose measure is more than 90^0 but less than 180^0 is called:
   - a. a) acute angle   a)obtuse angle   c)complete angle   d)right angle.

3. Two angles whose sum is 90^0 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 75^0 is –
    a. 95^0 b. 105^0 c. 100^0 d. 115^0

14. The complement of an angle of 55^0, is –
    a. 45^0 b. 125^0 c. 35^0 d. 135^0

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. 90^0 b. 150^0 c. 180^0 d. 360^0

17. $\frac{2}{3}$ right angles = ?
    a. 115^0 b. 135^0 c. 270^0 d. 230^0

18. The figure formed by two rays with the same initial point is called an _____.

19. A reflex angle lies between _____^{0} and _____^{0}

20. The angle whose measure is equal to 360^0 is called a _____ angle.

21. $\frac{2}{15}$ complete angle = _____^{0}

22. Sum of the angles forming a linear pair is aways 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) 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 appears?

b. 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

c. What is the measure of an angle in degrees between: a) North and West b) North and South west

6. Using only ruler , draw an acute angle and right angle.

7. A bicycle wheel makes four and half turns. Find the number of right angles through which it turns.

8. Using only a ruler, draw an acute angle, an obtuse angle and a straight angle.

9. How many degrees are there in $\frac{5}{6}$ straight angle.

10. Write the supplement of the :   a. 82^0 b. 31.5^0

11. Write the complement of the :a) 71^0 b)$59\frac{1}{2}$ degree

12. If the measure of one angle of a linear pair is of 85^0, 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.
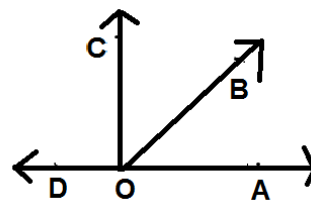
3) Write the kind of angle formed between the following directions

   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.
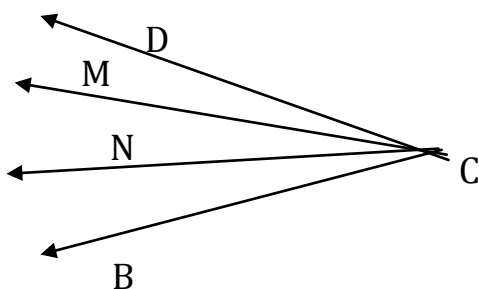
5) In the following figure, are ∠a and <b adjacent ? Justify your answer.
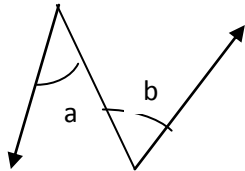
6) Define with figure

   a) supplementary angles.

   b) Vertically opposite angles.

   c) Linear pair.
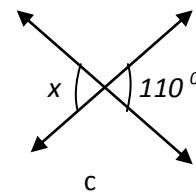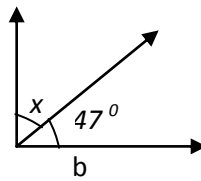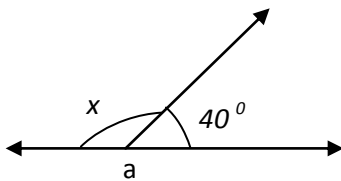
7) Complete the following using the given figure.

   a) Vertex of ∠1 = _____

   b) Another name for ∠2 is _____

   c) ∠1 and ∠2 are _____ angles.
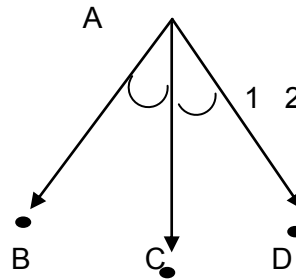
8.. Name the given angle in six different ways.
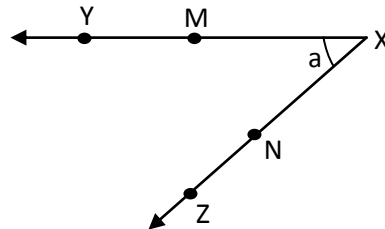
9. Find the measure of angle x in the following figures. Give reason also.

Section D – 4 marks each

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

   a) Sum of ∠1, ∠2, ∠3, ∠4, ∠5, ∠6, ∠7, ∠8

   b) ∠3 = _____(vertically opposite angle)

   c) ∠4 and _____ are adjacent angles.

   d) ∠1 + ∠2 + ∠3 +∠5 +∠ 6 + ∠8 = 320^0 then ∠4 +∠7 =.....
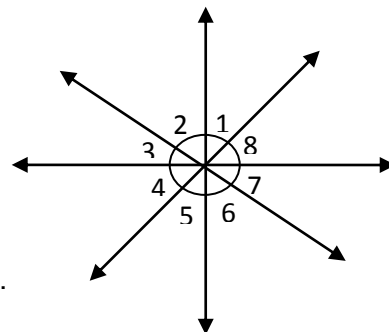
11. In the given figure, list the points which

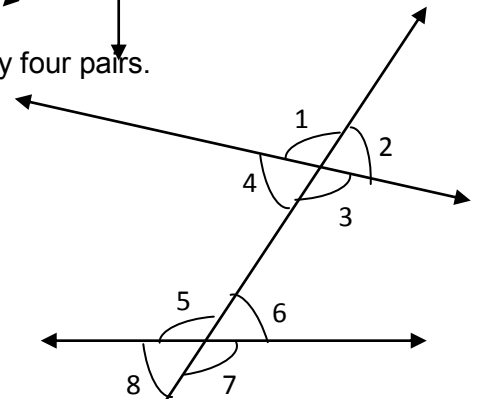 a) are in the interior of ∠AOB

  b) are in the exterior of ∠AOB

  c) lie on ∠AOB
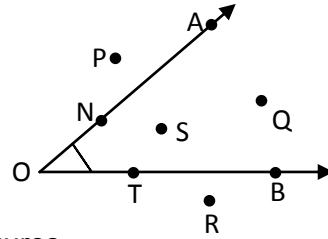
12. Write the pairs of vertically opposite angles in the following figures.
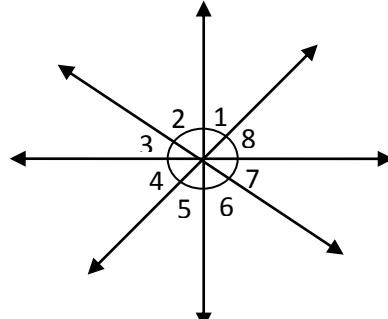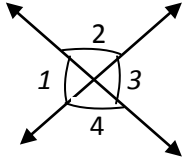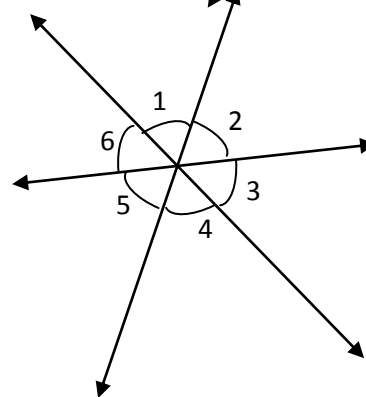
13. How many pairs of linear pair are there in the figure? Name any four pairs.

14. Answer the questions from the given figure.

  a) Name a pair of vertically opposite angle.

  b) Are ∠2 and ∠6 vertically opposite angles?

  c) Name one linear pair.

  d. Are ∠6 and∠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.
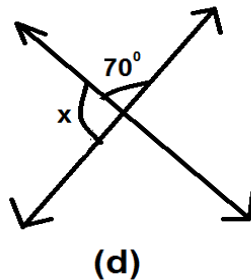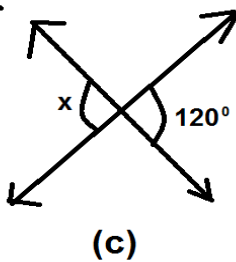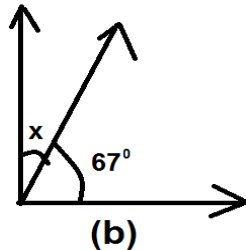
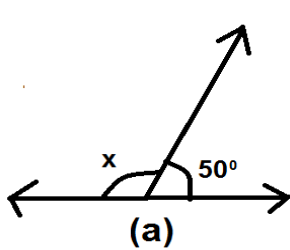 16. From the given fig, answer the following

  a) ∠3=---------- -   (Vertically Opposite)

  b) ∠6=--------- -   (Vertically Opposite)

  c) ∠2 and------- -   are adjacent angles

  d) ∠7 and------- -   are adjacent angles
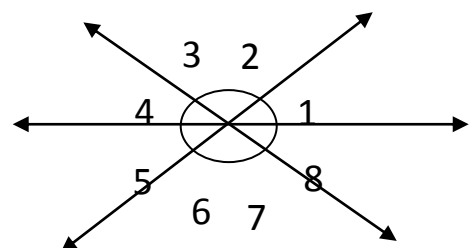
e) The sum of all angles is _____

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

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

(a)

(b)

(c)

(d)

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?