(Section A)

1. If x = 0 and y = k is a solution of the equation 5x-3y=3, find the value of k.
2. Find the angle whose complement is equal to the angle itself.

OR

What is the sum of the angles at a point?

3. If L, B and H are the length, breadth and height of a room respectively, then find the total area of four walls.
4. Find the class mark of class interval 100-120.
5. Write the formula of curved surface area of a cylinder.
6. Find the decimal expansion of $\frac{3116}{3116}$

(Section B)

7. Express 0.55555.....in the form of $\frac{P}{Q}$, where P and Q are integers and $Q \neq 0$.
8. Prove that two distinct lines cannot have more than one point in common.
9. A triangle having sides a, b and c. If s-a=4cm, s-b=8 cm and s-c=12 cm, then find the value of a, b and c.
10. Find one rational and one irrational number between 2 and 3.

OR

Simplify : $(5+\sqrt{7})(2+\sqrt{5})(5-\sqrt{7})(2-\sqrt{5})$

11. Three coins are tossed simultaneously 1000 times with the following requencies of different outcomes:

Outcomes	3 Heads	2 Heads	1 Head	No Head
Frequency	230	270	285	215

   i. Find the probability of getting exactly one head.
   ii. Find the probability of getting more than 2 Heads.

12. A cone and a hemisphere have equal radius and volume. Find the ratio of their heights.

(Section C)

13. Without using a protractor, draw an angle of $45^\circ 45^\circ$.
14. Sides of a triangle are in the ratio 11:19:24 and its perimeter is 540 cm. Find the area of the triangle.

OR

The parallel sides of a trapezium are 77 m and 60 m. Its non parallel sides are 26 m and 25 m. Find the area or trapezium.

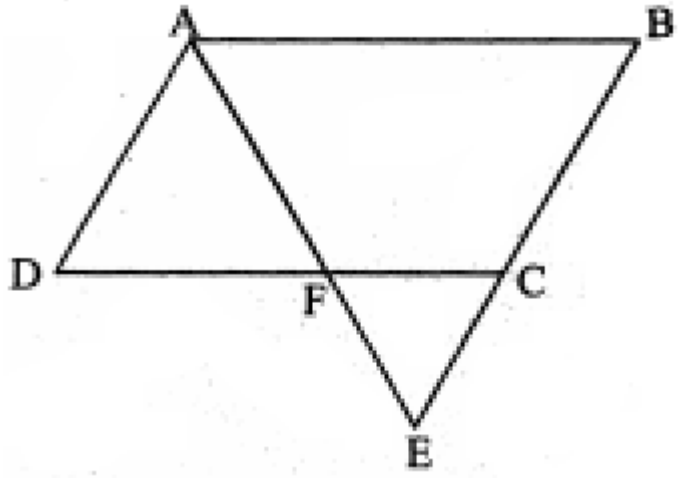
15. Evaluate $(98)^3$ using suitable identity.
16. Find the three solutions of the equation $4x+3y=12$

OR

Find the value of x in the equation :

$3x+27+4(x+1)5=23(2x+1)3x+27+4(x+1)5=23(2x+1)$

17. Represent $13--\sqrt{13}$ on number line.
18. In the figure, ABCD is a parallelogram in which side BC is produced to E such that CE=BC. AE intersects CD at F. If the area of $\triangle BDF\triangle BDF$ is 3 cm^2, find the area of parallelogram ABCD.

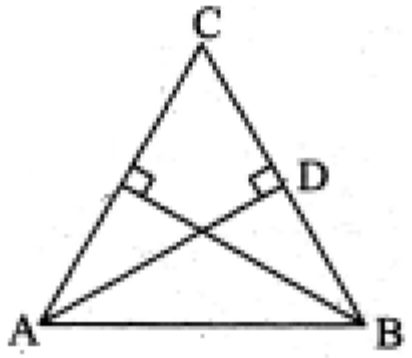


In $\triangle ABC\triangle ABC$, E is the midpoint of median AD. Show that $ar(\Delta BED)=14-ar(\Delta ABC)ar(\Delta BED)=14-ar(\Delta ABC)$

19. Find the value of m, if(x + 3) is a factor of $3x^2+mx+6$
20. Draw the graph of equation x=3y-4. Find the value of y when x=-1

21. $\triangle ABD \cong \triangle CBE$. $\triangle ABD \cong \triangle CBE$.
In the given figure, AB=BC.

22. Prove that $\triangle ABD \cong \triangle CBE$ $\triangle ABD \cong \triangle CBE$



23. To know the opinion of the students about the subject Statistics, a survey of 400 students was conducted.
The data is recorded in the following table :

Opinion	Number of Students
Likes	220
Unlikes	180

24. Find the probability that a student chosen at random
   i. like Statistics
   ii. unlikes Statistics
   iii. Like mathematics.

OR

25. A die is thrown 300 times by a player during a game. The data is recorded in the table given below :

Outcomes	1	2	3	4	5	6
Frequency	60	46	44	52	48	50

   i. Find the probability of getting an odd number.
   ii. Find the probability of getting a prime number.
   iii. Find the probability of getting 7.

(Section D)

23. The inner diameter of a cylindrical wooden pipe is 24 cm and its outer diameter is 28 cm. The Length of this pipe is 35 cm. Find the mass of the pipe if 1 cm^3 of wood has a mass of 0.6 gram.

24. Factorise : $x^3+x^2-17x+15$

OR

Verify

that $x3+y3+z3-3xyz=12(x+y+z)[(x-y)2+(y-z)2+(z-x)2]$x3+y3+z3−3xyz=12(x+y+z)[(x−y)2+(y−z)2+(z−x)2]

25. Prove that angles opposite the equal sides of an isosceles triangle are equal.

26. Plot the following points and check whether these points are collinear or not?
p(3, -7), Q(-2, -4) and R(0, 5).

27. ABCD is a prallelogram in which. P, Q, R and S are mid points of sides AB, BC, CA and DA respectively. Prove that quadrilateral PQRS is a rhombus.

28. Construct a ΔPQRΔPQR in which QR=5.4 cm, $\angle Q=60^\circ$∠Q=60∘ and PQ-PR=3.5 cm.

29. Find the mean, median and mode of the following data:
75, 62, 88, 55, 90, 95, 85, 69, 62, 78, 90, 95, 90, 95, 80, 71, 44, 44, 57, 68, 90

OR

Time taken in seconds by 25 students in an examination to solve certain questions is given below:
20, 16, 20, 27, 28, 30, 37, 33, 50, 40, 42, 46, 28, 43, 46, 46, 48, 49, 52, 58, 59, 60, 64, 52 By taking class interval of size 10, make a frequency distribution table. Also, find the range of the above data.

30. Prove that the angle subtended by an arc at the centre is double the angle subtended by it at any point on the remaining part of the circle.

OR

In the figure, O is the centre of the circle and $\angle BCO = 30^\circ \angle BCO = 30^\circ$. Find x and y.