

SUBJECT: MATHEMATICS

CLASS : VIII

TIME : 3 Hours

Max. Marks : 90

SET B

General Instructions :-

1. All questions are compulsory. However, internal choice has been given for one question in each section.
2. The question paper consists of 34 questions divided into 4 sections, Section A, Section B, Section C and Section D.
3. Section A contains 8 MCQ of 1 mark each, Section B contains 6 qns of 2 marks each, Section C contains 10 qns of 3 marks each and Section D contains 10 qns of 4 marks each.

SECTION-A (1 X 8 = 8)

Choose the correct answer

1. Which is the true statement
a) $CP - Loss = SP$ b) $SP - CP = Loss$ c) $SP - Loss = CP$ d) $CP + Loss = SP$.
2. Capacity of a cubical vessel of edge 40cm is _____.
a) 64 litres b) 640 litres c) 1600 litres d) 6400 litres
3. Factorisation of $p^2 + p - 6$ is
a) $(p - 3)(p - 2)$ b) $(p - 1)(p + 6)$ c) $(p + 2)(p - 3)$ d) $(p - 2)(p + 3)$
4. Which point lies on Y-axis.
a) (4, 0) b) (0, 7) c) (7, 7) d) (4, 4).
5. What is the probability to get a Red Ace from a well shuffled pack of 52 playing cards?
a) $\frac{1}{52}$ b) $\frac{1}{26}$ c) $\frac{1}{13}$ d) $\frac{1}{4}$
6. Product of $(2 - x)$ and $(-x + 2)$ is
a) $x^2 - 2^2$ b) $(x + 2)^2$ c) $2^2 - x^2$ d) $(2 - x)^2$
7. If two equal sides of an isosceles triangle are $6x - 7$ and $5x + 1$, then $x =$ ____
a) 1 b) 8 c) 7 d) 10
8. If two quantities x and y are in direct proportion, then
a) $x = ky$ b) $xy = k$ c) $x - y = k$ d) none of these.

SECTION- B (2 X 6 = 12)

9. The diagonals of a rhombus are 7.5 cm and 12 cm. Find its area.
10. Plot these points on a graph sheet.
A (0, 3), B (1, 4), C (2, 5), D (6, 2)
11. If the thickness of 500 sheets of paper is 4 cm then what would be the thickness of 200 sheets of the same paper.
12. The list price of a TV is Rs 12,000. If the rate of sales tax is 8%, calculate the total amount for purchasing the TV.
13. Find the product of $(z + 2)(z^2 - 2z + 4)$
OR
13. Use a suitable identity to get the product of $(2x + 5y)(2x + 3y)$.
14. Read the following grouped frequency table and answer the questions.

Class Interval	0-25	25-50	50-75	75-100	100-125	125-150
Frequency	5	2	7	3	12	4

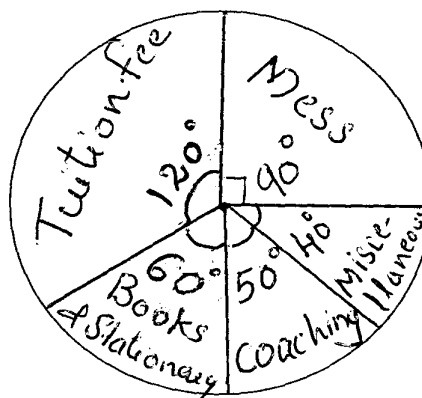
- i) What is the size of each class interval ?
- ii) Which class has the highest frequency ?
- iii) What is the upper limit of the class 75-100 ?
- iv) What is the frequency of the lowest class ?

SECTION- C (3 X 10 = 30)

15. Show that $(3x + 2y)^2 - 24xy = (3x - 2y)^2$.
16. The sum of three consecutive multiples of 9 is 324. Find these multiples.
17. A mobile is sold at Rs 7225 after allowing a discount of 15%. Find its marked price.
OR
17. Find the amount to be paid at the end of 1 year on Rs 16000 at 5% per annum compounded half yearly.

18. If 15 men can paint the walls of a building in 16 days, in how many days will 20 men complete the work.
19. Capacity of a cylindrical tank is 924 m^3 and radius of its base is 7 m . Find its height
20. Add $4y(3y^2 + 5y - 7)$ and $2(y^3 - 4y^2 + 5)$.
21. The area of a trapezium is 135 cm^2 . If one of its parallel sides is 15 cm and the distance between the parallel sides is 10 cm , then find the length of the other parallel side.
22. Factorise the expression and divide as directed : $(2y^2 - 14y + 24) \div (2y - 8)$

23. The given Pie-chart represents the monthly expenditure of a student residing in a hostel. If he spends Rs 3000 on tuition fees, then
- What is the total monthly expenditure?
 - How much does he spend on books and stationary?



24. A car travels 210 km in 2 hours. How far it can travel in 80 minutes?

SECTION- D (4 X 10 = 40)

25. Factorise $(x + y)^4 - z^4$
26. The ages of Ayesha and Reeba are in the ratio 3:4. Eight years from now the ratio of their ages will be 5:6. Find their present ages
27. Factorise:-
- $5y^2 + 2yz - 20y - 8z$
 - $16p^2 + 40pq + 25q^2$ (Use a suitable identity)
28. Evaluate using suitable identities
- $54^2 - 46^2$
 - 102×103

29. Rahul bought two watches for Rs 2400 each. He sold one of them at a profit of 10% and the other at a loss of 4%. Find his total gain or loss percent.
30. The sum of the digits of a two digit number is 9. The number obtained by reversing the digits is 9 less than the original number. Find the original number.

OR

30. Solve: $\frac{3x+5}{5} + \frac{2-x}{3} = \frac{5x-7}{6}$

31. The internal measures of a cuboidal room are 14 m X 10 m X 8 m. Find the total cost of whitewashing the four walls and ceiling of the room, if the cost of whitewashing is Rs 15 per m^2 .
32. 150 students appeared for the CBSE examination of X^{th} class. The given table shows their score in percentage wise. Draw a histogram to represent the data.

Marks (in percentage)	0 – 20	20 – 40	40 – 60	60 – 80	80 – 100
No of students	5	40	50	30	25

- i) How many students scored 60% and above ?
- ii) How many students scored less than 40% ?
33. Aparna borrowed Rs 8000 from a bank at 12% per annum for 3 years at simple interest and Nida borrowed the same amount for the same time period at 10% per annum compounded annually. Who paid more interest ?
34. The following table gives the quantity and cost of an item.

Quantity (in kg)	1	2	3	4	5
cost in Rs	30	60	90	120	150

Plot a linear graph to show the data and use it to find

- i) The quantity of the item, which can be bought for Rs 75.
- ii) Find the cost of $3\frac{1}{2}$ kg of the item.