

S.F.D.A.V Public school (Muzaffarnagar)

CLASS-VIII (2017-18)

Question Bank

Subject:- Mathematics

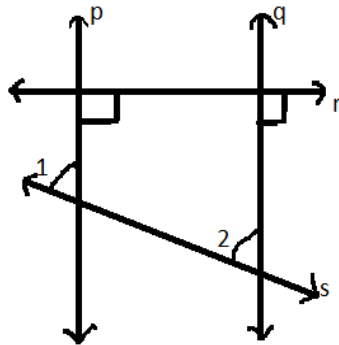
Note:- All questions are compulsory.

Section-A(Very short questions: -(1 Marks)

- Q1. Simplify:  $\left(\frac{1}{2}\right)^{-2} + \left(\frac{1}{3}\right)^{-2} + \left(\frac{1}{4}\right)^{-2}$
- Q2. If  $(a - b + c)^2 = a^2 + b^2 + c^2 + kab - 2bc + 2ac$ , write the value of k.
- Q3. Four-fifths of a number is greater than three-fourth of the number by 4. Find the number.
- Q4. How many times will the volume of a cuboid become if its height is doubled keeping length and breadth the same?
- Q5. In the word "NET" which letter shows the rotational symmetry of order 2?

Section- B(Short questions :-(2 Marks))

- Q6. By what number should  $\left(\frac{-2}{3}\right)^{-3}$  be divided so that the quotient may be  $\left(\frac{4}{27}\right)^{-2}$ ?
- Q7. Solve and check your answer  
$$\frac{3(y-5)}{4} - 4y = 3 - \frac{(y-3)}{2}$$
- Q8. Find the value of  $50 \div 4^{-1/2} \times 5^{-1}$
- Q9. Find  $\sqrt[3]{(2.54 + 2a)^6}$  if  $a=0.23$
- Q10. If  $a - \frac{1}{a} = 5$ , find the value of  $a^2 + \frac{1}{a^2}$
- Q11. ABCD is a rectangle. Its diagonals meet at O. If  $OA=(2x+4)$ cm and  $OD=(3x+1)$ cm. Find length of diagonals
- Q12. Find the value of x:  $5^x + 2(5^x) + 3(5^x) = 750$
- Q13. In the given figure,  $r \perp p$  and  $r \perp q$ . if  $\angle 1 = 65^\circ$  find the measure of  $\angle 2$ .



Section-C(Short questions:-(3 marks))

- Q14. In a stack there are 4 books each of thickness 24 mm and 6 paper sheets each of thickness 0.015mm what is the total thickness of the stack in standard form?
- Q15. Divide 150 into three parts such that the second number is five sixths the first and the third number is four fifths the second
- Q16. Construct a parallelogram, one of whose sides is 5.2 cm and whose diagonals are 6 cm and 6.4 cm.
- Q17. The number 1,2,6,9,11,15,12,23,33,27 are written on separate slips and mixed in a bowl. You are asked to pick a slip. what is the probability of a getting slip with

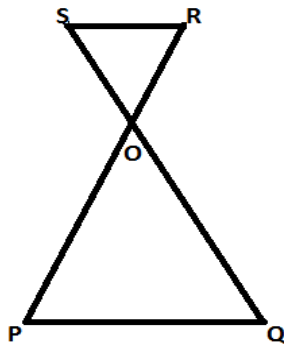
- (i) A prime number (ii) a factor of 33 (iii) a multiple of 3 but not of 9
- Q18. Factorise:  $-27a^3 + 36a^2b + 12ab^2$
- Q19. Find the quotient and remainder in  $(p^4 + \frac{63}{4}p^2 - 5) \div (p^2 - \frac{1}{4})$
- Q20. ABCD is a quadrilateral  $\overline{AB} = \overline{CD}$ . if  $\overline{AD} = \overline{BC}$  in which show that it is a parallelogram.
- Q21. Solve for x:  $4^{2x+3} = 16^{1-2x}$
- Q22. Find the value of a when  $x^3 - 6x^2 + 11x - a$  divided by  $x - 2$  gives remainder zero.
- Q23. Solve the equation:  

$$\frac{x^2 - (x+1)(x+2)}{5x+1} = 5$$
- Q24. Find the least no. of 4 digits which is a perfect square.
- Q25. Prove that in a quadrilateral sum of all angles is equal to  $360^\circ$ .
- Q26. The area of a trapezium is 248sqm and its height is 8m. If one of the parallel side is smaller than the other by 4m. Find the length of two parallel sides.
- Q27. The area of a square field is  $101\frac{1}{400} m^2$ . Find the length of one side of the field.

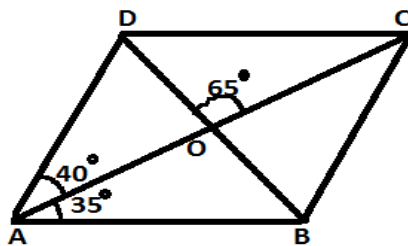
### Section-D [long questions:-(4 marks)]

- Q28. Write in usual form.  
 (i)  $6.82 \times 10^{-6}$   
 (ii)  $1.679 \times 10^9$
- Q29. The distance between two stations is 425km. two trains start simultaneously from these stations on parallel tracks to cross each other. The speed of one of them is greater than that of the other by 5km/h. If the distance between the two trains after 3 hours of their start is 20km. find the speed of each train.
- Q30. Construct a trapezium ABCD with  $AB \parallel CD$  where  $AB = CD = 4\text{cm}$ ,  $\angle A = 70^\circ$ ,  $\angle ABD = 30^\circ$ .
- Q31. Factorize  $x^2 + 3y^2 + 5z^2 - 2\sqrt{3}xy - 2\sqrt{15}yz + 2\sqrt{5}xz$
- Q32. A co-operative society started a business with an initial investment of 32000. In the first year it incurred a loss of 5%. however, during the second year it earned a profit of 10% which in third year rose to 12.5% calculate its net profit for the entire period of 3 years, which the society donated to a "Go-Green" project for the development of a park. Which value is being reflected by this action of the society?
- Q33. Reduce  $(x-5)(6x^3 - x^2 + 1) + (x+1)(2x^2 - 9x - 5)$  to a polynomial in standard form. Check whether  $(2x+1)$  is a factor of the above polynomial, using long division.
- Q34. Divide  $2x(7+8x^2-3x)+2(4x-1)$  by  $(-2+2x)$
- Q35. I have total of 1000 Rs consisting of ten and five rupee notes. The number of ten-rupee notes that I have is ten more than the number of five-rupee notes. How many notes do I have of each denomination.
- Q36. If  $3p-4q=8$  and  $pq=2$ , find the value of  $(3p+4q)^2$ .
- Q37. The simple interest on a sum of money for 2 years at 8% p.a. is 2400 Rs. What will be the compound interest on that sum at the same rate and for the same period? if the interest is compounded annually
- Q38. A well is dug 20m deep and it has diameter 7m. The earth so dug out is spread evenly on a rectangular plot 22m long and 14m broad. What is the height of the platform formed?
- Q39. Construct a quadrilateral ABCD in which  $AB=3\text{cm}$ ,  $BC=4\text{cm}$ ,  $\angle A = \angle D = 75^\circ$ ,  $\angle B = 90^\circ$ .

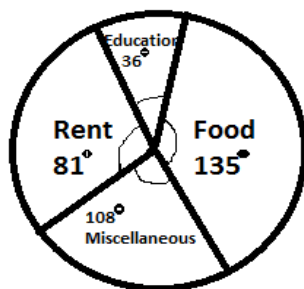
- Q40. The value of a car which purchased 3 years ago, depreciates at 20% p.a. if its present value is 89600Rs, for how much was its purchased? Also, find the total depreciation
- Q41. 15 cylindrical pillars of a building are to be painted and the diameter and height of each pillar is 48 cm and 7m respectively. Find the cost of painting if the rate is Rs 20 per sq. meter.
- Q42. In the figure, show that  $PQ \parallel RS$  given that  $\angle SRO = \angle ROS$  and  $\angle OPQ = \angle POQ$ .



- Q43. The difference between C.I and S.I of a certain sum of money is 61Rs. at 5%p.a. for three years when the interest is compounded annually. Find the sum of money.
- Q44. In the given figure, ABCD is a parallelogram in which  $\angle CAD = 40^\circ$ ,  $\angle BAC = 35^\circ$  and  $\angle COD = 65^\circ$ . Calculate (i)  $\angle ABD$  (ii)  $\angle BDC$  (iii)  $\angle ACB$  (iv)  $\angle CBD$



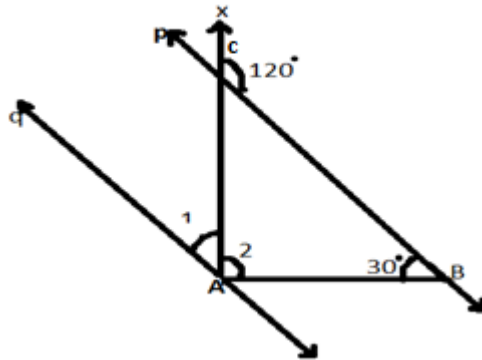
- Q45. The following pie chart shows the monthly expenditure of Neha on various items. If she spends 16000Rs. per month answer the following questions
- How much does she spend on rent?
  - How much does she spend on education?
  - What is the ratio of expenditure on food and rent?



- Q46. Find the square root of  $367\frac{2}{7}$  (correct to two places of decimal).
- Q47. Yearly savings (in Rs.) of 30 students of class -VIII are given below. Prepare a frequency distribution table with class intervals 30-40,40-50 etc. Also prepare a histogram for the data.
- |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|
| 38 | 42 | 40 | 35 | 72 | 27 | 57 | 82 | 59 | 80 | 84 |
| 73 | 65 | 40 | 76 | 40 | 38 | 60 | 58 | 38 | 54 | 39 |
| 50 | 44 | 71 | 83 | 45 | 38 | 80 | 77 |    |    |    |

Q48. The capacity of closed cylindrical pipe of height 1 m is 15.4 liter. How many sqm. Of metal sheet would be needed to make it?

Q49. In the give figure  $p \parallel q$ ,  $\angle XCB = 120^\circ$ ,  $\angle CBA = 30^\circ$ . find  $\angle 1$ ,  $\angle 2$ .



Q50. Mr. Shyamlal got 2,50,000Rs. as prize money in a game show. The amount received was allocated by him for different purposes as shown in the given pie-chart.

- (i) Find the money donated by him for Old-age home and orphanage.
- (ii) Find the amount paid by him as Income tax.
- (iii) Which value is depicted by Mr. Shyamlal when he donates money?
- (iv) Why should we pay tax?

