Class: VII

Subject: Maths (unsolved sample paper)

Summative Assessment –I

Time: **2½ hours**   MM: 60 Marks

Name: _____   class & section: _____   Roll.no._____

Invigilator's Name & Signature _____

General instructions
   i)   The question paper contains 4 sections.
   ii) Section -A 1 -8 ½ mark each.
   iii) Section -B 9 -14 1 mark each.
   iv) Section –C 15 -24 2 marks each.
   v) Section –D 25 -34 3 marks each.

SECTION-A

Q1. A dealer buys a wrist watch for Rs.225 and spends RS.15 on its repairs. If he sells the same for RS.300, find his profit percent.

   (a) 75%   (b) 60%   (c) 25%   (d) 20%

Q2. Mona gets 98 marks in her exams. This amounts to 56% of the total marks. What

are the maximum marks?

   (a) 175   (b) 150   (c) 200   (d) 160

Q3. Akhil has to pay 4% sales tax in addition to the price of a certain article. Find the

   price of the article, if he pays Rs.260 in all.

   (a) Rs.220   (b) Rs.250   (c) Rs.256   (d) Rs.200

Q4. The value of a machine depreciates every year by 10%. What will be its value

after 2 years, if its present value is Rs.50,000?

  (a) Rs.40,500   (b) Rs.40,050   (c) Rs.40,000   (d) Rs.45,000

Q5. Abey lent Rs.8, 000 to his friend for 3 years at the rate of 5% per annum

compounded annually. What amount does Aby get afer 3 years?

  (a) Rs.9,000   (b) Rs.9,200   (c) Rs.9,216   (d) Rs.9,261

Q6. Find the amount on Rs.4,096 at the rate of 12 ½% per annum for 18 months

compounded half-yearly.

  (a) Rs.5,000   (b) Rs.4,913   (c) Rs.4,931   (d) Rs.5,832

Q7. The present population of a town is 28,000. If it increases at the rate of 5% per

annum, what will be its population after 2 years?

  (a) 30,000   (b) 30,800   (c) 30,870   (d) 30,870

Q8. If the cost price of 18 mangoes is the same as the selling price of 16 mangoes,

find the gain percent.

  (a) 15%   (b) 12.5%   (c) 15.5%   (d) 12%

<div align="center">SECTION-B</div>

Q9. What is the value of "m", if =? $(5^2)^n \times m = (5^{-7})^2$

Q10. What least number must be subtracted from 7250 to get a perfect square? Also,

find the square root of this perfect square.

Q11. What is the least number by which 12348must be divided to obtain a perfect

square?

Q12. x+ y + z = 0, prove that $x^3 + y^3 + z3 = 3xyz$.

<div align="center">OR</div>

Factorize: $(a^8 - b^8)$

Q13. If $(x^2 + 1/x^2) = 83$. Find $X^3 - 1/X^3$

Q14. Factorize (i) $25a^2 - 4b^2 + 28bc - 49c^2$ (ii) $5y^2 - 20y - 8z + 2yz$

SECTION-C

Q15. A motor boat covers a certain distance downstream in a river in 5 hours. It covers the same distance upstream in 6 hours. The speed of water is 2 km/hr. Find the speed of the boat in still water.

Q16. Each side of a triangle is increased by 10 cm. If the ratio of the perimeters of the new triangle and the given triangle is 5 : 4, find the perimeter of the given triangle.

Q17. A dealer buys an article for Rs.380. At what price must he mark it so that after allowing a discount of 5%, he still makes a profit of 25%?

Q18. Ajit buys a motorcycle for Rs.17600 including Value Added Tax. If the rate of VAT is 10%, what is the sale price of motorcycle?

Q19. Two sides of a parallelogram are in the ratio 5 : 3. If its perimeter is 64 cm, find the lengths of its sides.

Q20. ABCD is a rectangle. If BM and DN are perpendiculars from B and D on AC, prove that Δ BMC $\cong$ Δ DNA. Is it true that BM = DN?

Q21. If $(x + l)(x + m) = x^2 + 4x + 2$ find $l^2 + m^2$ and $(l - m)^2$

Q22. ABCD is a parallelogram and line segments AE and CF bisect the angles A and C and meet DC and AB at E and F respectively. Show that AE ∥ CF.

Q23. The lengths of the diagonals of a rhombus are 16 cm and 12 cm respectively. Find the length of each of its sides.

Q24. A cubical oil tin in 30 cm by 40 cm by 50 cm. find the cost of the tin required for making 20 such tins if the cost of the in sheet is Rs. 20 per squares meter.

SECTION-D

Q25. Construct a Quadilateral ABCD in which AB=4cm , BC=3cm , CD=4.5cm , angle B=105^0, angle C=80^0

Q26. Draw an equilateral triangle ΔABC and show with help of figures how it shows rational symmetry. What is the angle of rotation and order of rotation?

Q27. If x=(3/2)^{2}x(2/3)$^{-4}$, find x-1.

Q28. Using long division method Divide (x^4-16) by (x+2) and write down the quotient and remainder.

Q29. The present ages of Ram and Rahim are in the ratio 4:3. 4 years later, their ages will be in the ratio 6:5 . What are their present ages?

Q30. Verify the Euler's formula for Triangular Prism?

Q31. Factorise (i) (a - b) ^{2} + 6 (a - b) + 8 (ii) $x^2 + \dfrac{1}{x^2}$ If $x + \dfrac{1}{x} = \sqrt{5}$ find the value of $x^2 + \dfrac{1}{x^2}$.

Q32. Prove that the sum of exterior angles of a quadrilateral is 360o Also, Find the measure of angle x for the following quadrilateral
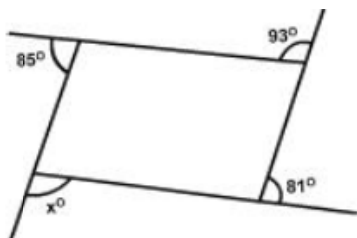
Q34. Divide 150 into three parts, such that the second number is five-sixths the first and the third number is four-fifths the second.