O.P. JINDAL SCHOOL, SAVITRI NAGAR

Half Yearly Exam 2026 – 27

Class: VIII / _____ **MM : 50**

Subject: Mathematics **Time : 2 Hrs.**

General Instructions: All questions are compulsory.

i. ***Section A*** consists of 10 questions and each question carry ***1 mark***.
ii. ***Section B*** consists of 5 questions and each question carry ***2 marks***.
iii. ***Section C*** consists of 6 questions and each question carry ***3 marks***.
iv. ***Section D*** consists of 2 questions and each question carry ***4 marks***.
v. ***Section E*** consists of 1 case-study based questions and carry ***4 marks***.

(Section-A)

Multiple choice questions:

Q1. $4^2 + 5^2 + 20^2 = (_____)^2$

c) 441 b) 400 c) 29 d) 21

Q2. Which of the following can be the unit digit of a perfect square number?

a) 9 b) 7 c) 3 d) 2

Q3. Arun has 3 shirts, 3 trousers and 3 pairs of shoes. In how many different ways can he dress up?

a) 3×3 b) 2^3 c) 3^2 d) 3^3

Q4. $81 \div 3^2 = 3 \times$ _____

a) 9 b) 1 c) 3 d) 81

Q5. Which of the following statements is not correct?

a) Every square is a rhombus.
b) Every rhombus is a kite.
c) Every rectangle is a kite.
d) None of these.

Q6. If one angle of a parallelogram is 80°, what is the measure of its opposite angle.

a) 60° b) 80° c) 120° d) 180°

Q7. Which of the following is a valid representation in Roman numeral system?

a) VX b) XXXX c) LL d) XC

Q8. In which quadrilateral, diagonals do not intersect at right angles

a) kite b) rhombus c) rectangle d) square

Q9. Which of the following represent 5^4.

a) Δ b) $\uparrow$ c) ∇ d) $\sim$

Q10. Assertion(A): $(1+3+5+7+9+11)=6^2$

Reason (R): The sum of first n odd numbers is $(n+1)$.

a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true and R is not the correct explanation of A.
c) A is true but R is false.
d) A is false but R is true

(Section – B)

Q11. Identify greater number: 5^{10} or 10^5

OR

Do as directed:

a) Write 0.00000795 in standard form.
b) Write 6.375×10^{-4} in usual form.

Q12. a) How many numbers lie between the squares of the numbers 16 and 17?

a) What will be the 21^{th} odd number?

Q13. Find the cube root of 216 by prime factorization method.

Q14. Represent the relations between the following quadrilaterals using Venn diagrams:

Parallelogram, Rectangle, Rhombus, Square

Q15. Represent *293* in the base-5 system.

OR

Add the given Roman numerals:

LXXXVII + LXXVIII

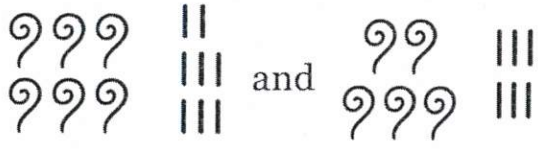
(Section – C)

Q16. Add the given numbers on abacus and also represent the result (sum) on the abacus.

6842 + 2348

OR

Add the following Egyptian numerals.



Q17. Using diagonal properties, construct a rhombus whose diagonals are of lengths 5 cm and 6 cm.

Q18. Find the product based on Gumulgal system.

(ukasar-ukasar-ukasar-urapon) × (ukasar-ukasar)

Q19. Two adjacent angles of a parallelogram are $(3x - 4)°$ and $(3x + 16)°$. Find the value of x and also find the measure of each of its angles.

Q20. Find the smallest number by which 2560 should be multiplied so that the product is a perfect cube.

Q21. Evaluate $\left\{\left(\frac{1}{3}\right)^{-3} - \left(\frac{1}{2}\right)^{-3}\right\} \div \left(\frac{1}{4}\right)^{-3}$

OR

In a stack there are 4 books each of thickness 20 mm and 6 paper sheets each of thickness 0.020 mm. What is the total thickness of the stack in standard form?

(Section – D)

Q22. Simplify by using law of exponents: $\frac{3^5 \times 10^3 \times 125}{5^4 \times 6^4}$

OR

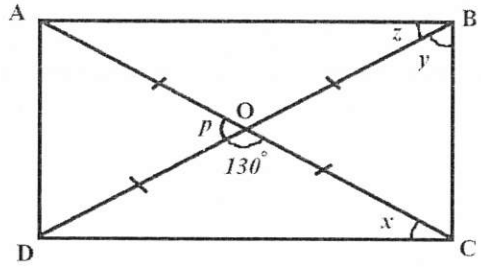
Evaluate using law of exponents and give answer in simplified form:

a) $\left(\frac{5}{6}\right)^{-1} \times \left(\frac{6}{5}\right)^{-1}$ b) $\left[\left(\frac{1}{2}\right)^{-1} + \left(\frac{1}{3}\right)^{-1}\right]^0$

Q23. Find the least square number which is exactly divisible by each of the numbers 8, 12, 15 and 20.

(Section – E)

Q24. In the given figure ABCD is a rectangle in which $\angle COD = 130°$. $\angle ABO = z$, $\angle CBO = y$, $\angle OCD = x$ and $\angle AOD = p$.



Using the above diagram, answer the following questions.

a) What is the value of x?

b) Find the value of y?

c) Find the value of z?

d) Find the sum of $x + y + z$.

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