

**INDIAN SCHOOL SALALAH**  
**SECOND TERM EXAMINATION, 2018-19**

**Subject: Mathematics**

**Max. Marks: 80**

**Class: VIII**

**Time Allowed: 3 Hours**

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**GENERAL INSTRUCTIONS**

- a) All the questions are compulsory
- b) This question paper consists of 30 questions divided into 4 sections. Section A contains 6 questions of 1 mark each. Section B contains 6 questions of 2 marks each. Section C contains 10 questions of 3 marks each. Section D contains 8 questions of 4 marks each.

**SECTION A**

**Question numbers 1 to 6 carry 1 mark each.**

- 1. How many whole numbers lie between squares of 19 and 20?
- 2. Complete the following identities:
  - i)  $(a - b)^2 = \dots\dots\dots$
  - ii)  $a^2 - b^2 = \dots\dots\dots$
- 3. Solve:  $\frac{7x}{5} = 21$
- 4. Name the quadrilaterals whose diagonals are equal.
- 5. Evaluate:  $(-5)^{-2}$
- 6. Factorise:  $6x - 30$

**SECTION B**

**Question numbers 7 to 12 carry 2 marks each.**

- 7. Write a Pythagorean triplet where one number is 6.
- 8. Find the area of a rectangle whose length is  $20x^2$  and breadth is  $5y^2$ .
- 9. Construct a grouped frequency distribution table for the ages of 30 teachers in a school as recorded below. Choose the class intervals 25 -30, 30 -35 etc.  
26, 29, 25, 40, 30, 32, 28, 32, 29, 29, 40, 41, 27, 45, 28,  
29, 25, 53, 52, 55, 27, 51, 37, 38, 35, 52, 27, 42, 47, 54.
- 10. Solve:  $3x + \frac{1}{2} = 5$

11. Evaluate:  $\left(\frac{4}{7}\right)^{-2} \times \left(\frac{4}{7}\right)^{-3} \div \left(\frac{4}{7}\right)^{-5}$

12. Find the sum of interior angles of a 12 sided convex polygon.

### SECTION C

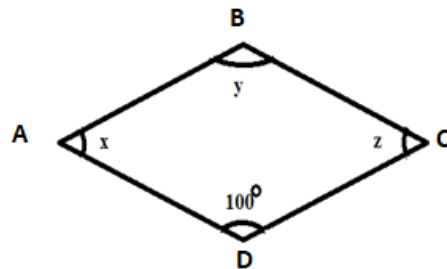
**Question numbers 13 to 22 carry 3 marks each.**

13. The number of students in a school speaking different languages is given below.

Represent the data by a pie chart.

Language	Hindi	Malayalam	Bengali	Tamil
No. of students	200	300	100	120

14. In the following parallelogram, find the values of the unknown x, y and z.



15. Simplify the following:  $\frac{(5^{-2})^3 \times 4^{-3} \times 3^2}{25^{-2} \times 2^{-6} \times 9}$

16. Factorise the following expressions:

i)  $4x^2 + 12x + 9$

ii)  $x^2 + 2x - 35$

17. Construct a rhombus ABCD where AC = 7.5 cm and BD = 8.4 cm.

18. Solve:  $\frac{2-7n}{1-5n} = \frac{3+7n}{4+5n}$

19. Consider the following pattern:

$51^2 = (5^2 + 1) \times 100 + 1^2 = 2601$

$52^2 = (5^2 + 2) \times 100 + 2^2 = 2704$

$54^2 = (5^2 + 4) \times 100 + 4^2 = 2916$

Using the above pattern, find:

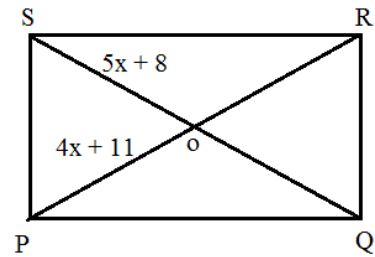
i)  $53^2$                       ii)  $57^2$

20. Use the identities, evaluate:

i)  $(105)^2$

ii)  $1002 \times 998$

21. In the figure PQRS is a rectangle. Its diagonals meet at O. Find  $x$ , if  $OS = 5x + 8$  and  $OP = 4x + 11$ .



22. Find the errors in the following statements (if any) and write the statement in the correct form:
- a)  $(3x + 4)^2 = 3x^2 + 12x + 16$       b)  $\frac{6x+7}{7} = 6x + 1$ .

### SECTION D

**Question numbers 23 to 30 carry 4 marks each.**

23. Find the least perfect square which is exactly divisible by each of the numbers 6, 9, 15 and 20.
24. Simplify: i)  $(4m^2 - 49) \div (2m - 7)$       ii)  $20abc(3a + 7) \div 4bc(15a + 35)$
25. Construct a quadrilateral PQRS in which  $PQ = 6.4$  cm,  $QR = 5.5$  cm,  $\angle Q = 90^\circ$ ,  $\angle R = 120^\circ$  and  $\angle S = 105^\circ$ .
26. Draw a graph to illustrate the relation between the sum deposited and simple interest earned for a year.

Deposit (in ₹)	1000	2000	3000	4000	5000
Simple interest (in ₹)	80	160	240	320	400

- i) Use the graph to find the interest on ₹ 2500 for a year.
- ii) To get an interest of ₹ 280 per year, how much money should be deposited?
27. At present the sum of Chithra's age and her son's age is 44 years. After 2 years, Chithra's age will be three times of her son's age. Find their present ages.
28. Multiply the following:
- i)  $(2x^2 - 3x + 5)(5x + 2)$
- ii) a)  $m^2n(m^3 + n)$       b)  $9yz(3x^2 - 4xz)$
29. Draw a histogram to represent the following data:

Speed in km/h	40-50	50-60	60-70	70-80	80-90	90-100
No. of cars	6	10	13	18	4	2

30. Find the least number which must be subtracted from 4568 to make it a perfect square.

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