

# HALF YEARLY EXAMINATION, 2018-19

## MATHEMATICS

Time : 3 hrs.

Class - VIII

M.M. : 80

Date – 17.09.2018 (Monday)

Name of the student \_\_\_\_\_ Section \_\_\_\_\_

### General Instructions:

- All questions are compulsory.
- The question paper consists of **30 questions** divided into 4 sections, **section A, B, C, and D.**
- **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 and **Section D** contains **8 questions of 4 marks** each.
- There is **no overall choice** however internal choice has been provided in **4 questions of section C** and in **3 questions of section D.**
- Use of **calculator is not permitted.**
- Draw figures wherever needed.

### SECTION-A

- Q.1 If  $\frac{t}{5} = 10$  then  $t =$  \_\_\_\_\_.
- Q.2 Number of digits in the square root of 144 is \_\_\_\_\_.
- Q.3 Cube of any odd number is even. (True / False)
- Q.4 Coefficient of  $xy$  in  $-10xy$  is \_\_\_\_\_
- Q.5 Express 0.000000000085 in standard form.
- Q.6 All rhombuses are parallelograms . (True / False)

### SECTION - B

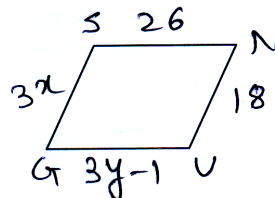
- Q.7 Solve the given equation:  
 $2x - 1 = 14 - x$
- Q.8 Name all the quadrilaterals whose diagonals are equal.
- Q.9 How many numbers lie between the squares of 25 and 26.
- Q.10 Find the product of  $\frac{2}{3}xy$  and  $\frac{-9}{10}x^2y^2$ .
- Q.11 Find the value of  $7^3 - 6^3$ .
- Q.12 Express  $5.8 \times 10^{12}$  in usual form.

### SECTION-C

- Q.13 How many sides does a regular polygon have if each of its interior angles is  $165^\circ$

OR

GUNS is a parallelogram. Find  $x$  and  $y$ .



- Q.14 Write a Pythagorean triplet whose one member is 16.

OR

Find the smallest whole number by which 396 should be divided so as to get a perfect square. Also find the square root of the square number so obtained.

- Q.15 Find the cube root of 10648.

- Q.16** Find  $m$  so that  $(-3)^{m+1} \times (-3)^5 = (-3)^7$
- Q.17** Construct parallelogram MORE where OR = 6cm, RE = 4.5 cm, EO = 7.5 cm.
- Q.18** Construct a quadrilateral ABCD, given that BC = 4.5 cm, AD = 5.5 cm, CD = 5cm diagonal AC = 5.5 cm and diagonal BD = 7 cm.
- Q.19** Find the smallest natural number by which 256 must be multiplied to obtain a perfect cube.
- Q.20** Simplify:  $(a + b)(c - d) + (a - b)(c + d) + 2(ac + bd)$

**OR**

Simplify:  $(y^2 - x^2y)^2 + 2y^3x^2$

- Q.21** Find the value of  $\left[\frac{1}{2}\right]^{-2} + \left[\frac{1}{3}\right]^{-2} + \left[\frac{1}{4}\right]^{-2}$

- Q.22** Aman's age is three times his son's age. Ten years ago he was five times his son's age. Find their present ages.

**OR**

Solve the given linear equation:

$$15(y - 4) - 2(y - 9) + 5(y + 6) = 0$$

### SECTION-D

- Q.23** On Sunday evening, Ravi along with his schoolmates visited a regular hexagonal shaped historical building. One of his friend tried to write something on the wall but he asked him not to do so.
- Find the measure of each exterior angle of a regular hexagon.
  - Find the measure of each interior angle of a regular hexagon.
  - What type of lesson did Ravi give to his friends.?

- Q.24** Simplify:  $\frac{25 \times t^{-4}}{5^{-3} \times 10 \times t^{-8}} (t \neq 0)$

**OR**

Simplify:  $\frac{3^{-5} \times 10^{-5} \times 125}{5^{-7} \times 6^{-5}}$

- Q.25** The denominator of a rational number is greater than its numerator by 8. If the numerator is increased by 17 and the denominator is decreased by 1, the number obtained is  $\frac{3}{2}$ . Find the rational number.
- Q.26** Construct a quadrilateral DEAR where DE = 4 cm, EA = 5cm, AR = 4.5 cm,  $\angle E = 60^\circ$  and  $\angle A = 90^\circ$ .
- Q.27** Using suitable identities evaluate:
- $51^2 - 49^2$
  - $307 \times 303$
- Q.28** Show that  $(4pq + 3q)^2 - (4pq + 3q)^2 = 48pq^2$ .

**OR**

Simplify:  $(1.5x - 4y)(1.5x + 4y + 3) - 4.5x + 12y$

- Q.29** Baichung's father is 26 years younger than Baichung's grandfather and 29 years older than Baichung. The sum of the ages of all the three is 135 years. What is the age of each of them?

**OR**

One of the two digits of a two digit number is three times the other digit. If you interchange the digits of this two digit number and add the resulting number to the original number, you get 88. Find the original number?

- Q.30** Find the square root of 390625 by long division method.

