

ANNUAL EXAMINATION (2018-19)

Class - VIII

Subject - Mathematics

Time - 3.00 hours

M.M. - 80

SECTION - A (Each carries 1 mark)

- Q. 1 Write smallest Hardy Ramanujan number. \
- Q. 2 Obtain the product of $5a$, $3a^2$, $7a^4$.
- Q. 3 The diagonal of a rhombus are 7.5 cm and 12 cm and find its area.
- Q. 4 Write multiplicative inverse of 10^{-100} .
- Q. 5 Which of the following are in inverse proportion
- (a) Area of cultivated land and the crop harvested.
 - (b) The time taken for a journey and the distance travelled in a uniform speed.
 - (c) The number of workers on a job and the time to complete the job.
- Q. 6 Factorize $12x + 36$

SECTION - B (Each carries 2 marks)

- Q. 7 Find A and B in the addition

$$\begin{array}{r} A \\ + A \\ \hline A \\ \hline B A \end{array}$$

- Q. 8 Draw square Pyramid.

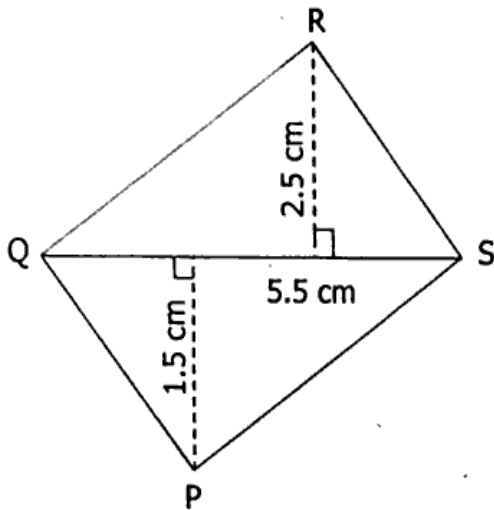
- Q. 9 Find the value of $\left(\frac{1}{2}\right)^{-2} + \left(\frac{1}{3}\right)^{-2} + \left(\frac{1}{4}\right)^{-2}$

Q. 10 Factorize $x^2 + xy + 8x + 8y$

OR

$$10x^2 - 18x^3 + 14x^4$$

Q. 11 Find the area of quadrilateral shown in figure



Q. 12 If the weight of 12 sheets of thick paper is 40 gm. How many sheets of same paper would weight $2\frac{1}{2}$ kg ?

Q. 13 Find the product of $(x-4)(2x+3)$

SECTION - C (Each carries 3 marks)

Q. 14 Find the cube root of 13824 by Prime factorisation method.

Q. 15 Show that $(4pq + 3q)^2 - (4pq - 3q)^2 = 48pq^2$

OR

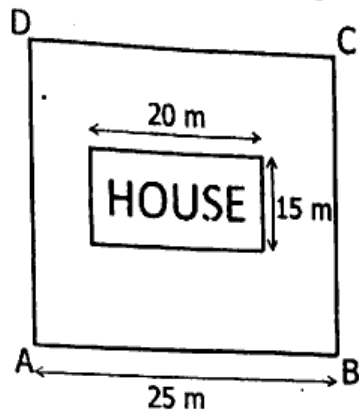
Simplify $(a+b+c)(a+b-c)$

Q. 16 Simplify $a(a^2 + a + 1) + 5$ and find its value for (i) $a=0$ (ii) $a=1$

Q. 17 Using Euler's formula

<i>Faces</i>	?	5	20
<i>Vertices</i>	6	?	12
<i>Edges</i>	12	9	?

- Q. 18 A rectangular piece of paper 11 cm X 4 cm is folded without overlapping to make a cylinder of height 4 cm. Find the volume of cylinder.
- Q. 19 Mrs. Kaushik has a square plot with the measurement as shown in figure. She wants to construct a house in the middle of the plot. A garden is developed around the house. Find the total cost of developing a garden around the house at the rate of Rs. 55 per m^2 .



- Q. 20 Express the following numbers in standard form :
- .000035
 - 4050000
 - .00000000875
- Q. 21 Find the value of m for which
- $$5^m \div 5^{-3} = 5^5$$
- Q. 22 If 15 workers can build a wall in 48 hours. How many workers will be required to do the same work in 30 hours ?
- Q. 23 Obtain the factors of $z^2 - 4z - 12$
- Q. 24 Divide as directed $26xy(x+5)(y-4) \div 13x(y-4)$
- Q. 25 If $31z5$ is a multiple of 9 where z is a digit. What is the value of z ?

SECTION - D (Each carries 4 marks)

- Q. 26 Is 1188 a perfect cube ? If not by which the smallest natural numbers should 1188 be divided so that the quotient is a perfect cube.
- Q. 27 Using identities evaluate
- 103×98
 - $153^2 - 147^2$

Q. 28 In a building there are 24 cylindrical pillars. The radius of each pillar is 28 cm and height is 4 m. Find the total cost of painting the curved surface area of all pillars at the rate of Rs. 8 per m^2 .

OR

Mohan wants to buy a trapezium shaped field. Its side along the river is parallel to and twice the side along the road. If the area of this field is $10500 m^2$ and the perpendicular distance between the two parallel side is 100 m. Find the length of the side along the river.

Q. 29 Simplify $\frac{3^{-5} \times 10^{-5} \times 125}{5^{-7} \times 6^{-5}}$

Q. 30 A train is moving at a uniform speed of 75 km/hr.

(i) How far will it travel in 20 minutes ?

(ii) Find the time required to cover a distance of 250 km.

Q. 31 Factorize the expression and divided them as directed

$4yz(z^2 + 6z - 16) \div 2y(z + 8)$

