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ANNUAL EXAMINATION (2018)

Class - VIII
Subject - Mathematics

Time - 3.00 hours

M.M. -80

SECTION - A (Each carries 1 mark)

- Q. 1 Write smallest Hardy Ramanujan number. $\sqrt{\quad}$
- Q. 2 Obtain the product of $5a$, $3a^2$, $7a^4$.
- Q. 3 The diagonals 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
- Area of cultivated land and the crop harvested.
 - The time taken for a journey and the distance travelled in a uniform speed.
 - The number of workers on a job and the time to complete the job.
- Q. 6 Factorize $\quad +36$

SECTION - B (Each carries 2 marks)

7 Find A and

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

Find A and B in the addition

Q. 8 Draw square Pyramid.

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

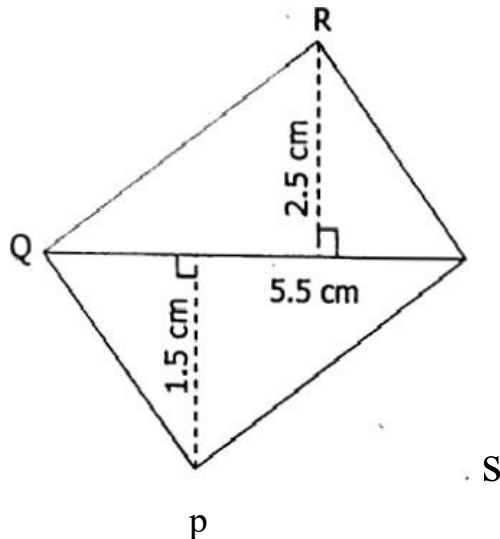
<https://www.careerguide.com.com>

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

OR

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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— 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 $(a + b + c)(a + b)$

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

Q. 17 Using Euler's formula

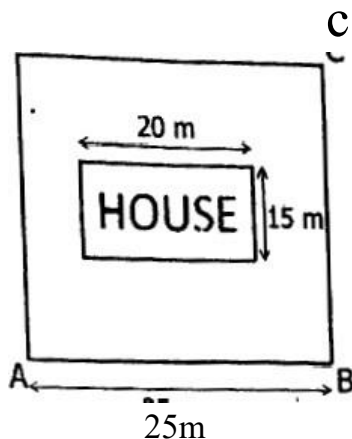
| | | | |
|----------|----|---|----|
| Faces | | 5 | 20 |
| Vertices | 6 | | 12 |
| Edges | 12 | 9 | |

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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 :

(i) .000035

(ii) 4050000

(iii) .0000000875

Q. 21 Find the value of m for which

$$5^m + 5^{-3} = 5^5$$

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

(a) 103×98

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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 m².

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 m² and the perpendicular distance between the two parallel sides is 100 m. Find the length of the side along the river.

$$3^{-5} \times 10^{-5} \times$$

125 Q. 29 Simplify

$$5^{-7} \times 6^{-5}$$

Q. p 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 divide them as directed

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

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