## A M R ITA VIDYALAYAM ANNUAL EXAMINATION 2019-20

Class: VIII
Marks : 80
Time : $\mathbf{3} \mathbf{h r s}$
MATHEMATICS
General Instructions:
Section A: 1 to 20 carries 1 mark each.
Section B: 21 to 26 carries 2 marks each.
Section C: 27 to 34 carries 3 marks each.
Section D: 35 to 40 carries 4 marks each.
Use of calculator is not permitted.

## SECTION - A

1. Which is the true statement?
a) CP - Loss = SP
b) SP - CP $=$ Loss
c) $\mathrm{SP}-$ Loss $=\mathrm{CP}$
2. $(a+b)(a-b)=$ $\qquad$ .
a) $a^{2}+2 a b+b^{2}$
b) $b^{2}-a^{2}$
c) $a^{2}-b^{2}$
3. Diagonals of rhombus bisect each other at $\qquad$ .
a) $0^{0}$
b) $90^{\circ}$
c) $180^{\circ}$
4. Additive inverse of $3 / 5$ is $\qquad$ .
a) 0
b) $-3 / 5$
c) $5 / 3$
5. $6 x \times 2 x^{2}=$ $\qquad$
a) $12 x^{2}$
b) $12 x^{3}$
c) $8 x^{3}$
6. Sum of the interior angles of a regular polygon is $\qquad$ .
a) $n \times 90$
b) $(\mathrm{n}-2) \times 90$
c) $(\mathrm{n}-2) \times 180$
7. Lateral surface area of a cuboid is $\qquad$ .
a) $2 h(l+b)$
b) $l \times b \times h$
c) $4 a^{2}$
8. Common factor of $5 x y z$ and $10 x^{2} y^{2} z^{2}$ is $\qquad$ .
a) $5 x y z$
b) $x y z$
c) $5 x^{2} y^{2} z^{2}$
9. Solution of $x+2=6$ is $\qquad$ .
a) 8
b) 4
c) -4
10. How many diagonals does a regular hexagon have?
a) 2
b) 9
c) 6
11. Find the measure of each exterior angle of a regular polygon with 9 sides.
12. Find y.

13. Multiply $\underline{6}$ by the reciprocal of $\underline{-7}$.
$13 \quad 26$
14. Divide $28 x^{4}$ by $56 x$.
15. The diagonals of a rhombus are 7.5 cm and 12 cm . Find its area.
16. Add $p(p-q), q(q-r)$ and $r(r-p)$.
17. An item marked at $₹ 840$ is sold for $₹ 714$. What is the discount and discount $\%$ ?
18. What is a regular polygon?
19. Find the side of a cube which has a surface area of 600 sq.m?
20. If each edge of a cube is doubled, how many times will its volume increase?

## SECTION - B

21. Plot the points on a graph sheet $\mathrm{A}(0,3), \mathrm{B}(1,4), \mathrm{C}(-2,5), \mathrm{D}(6,-2)$.
22. Find the height of a cuboid whose volume is $275 \mathrm{~cm}^{3}$ and base area is $25 \mathrm{~cm}^{2}$.
23. Represent (-11)/ 5 on number line.
24. Factorise $\mathrm{a}^{2}+6 \mathrm{a}+9$.
25. Subtract $3 p q(p-q)$ from $2 p q(p+q)$.
26. Construct a square READ with $\mathrm{RE}=5.1 \mathrm{~cm}$.

## SECTION - C

27. A milk tank is in the form of a cylinder whose radius is 1.5 m and length is 7 m . Find the quantity of milk in litres that can be stored in the tank.
28. Using suitable identity, solve
a) $(2 y+5)(2 y+5)$
b) $51^{2}-49^{2}$
29. Construct a quadrilateral ABCD in which $\mathrm{AB}=6 \mathrm{~cm}, \mathrm{BC}=5 \mathrm{~cm}, \mathrm{AD}=4 \mathrm{~cm}, \mathrm{CD}=7 \mathrm{~cm}$, $\mathrm{BD}=6 \mathrm{~cm}$.
30. The age of Rahul and Hari are in the ratio 5:7. Four years later, the sum of their ages will be 56 years. What are their present ages?
31. In the following parallelogram find the values of $\mathrm{x}, \mathrm{y}$ and z .

32. Factorise $10 a b+4 a+5 b+2$.
33. A man got a $10 \%$ increase in his salary. If his new salary is $₹ 1,54,000$, find his original salary.
34. Write three rational numbers between $1 / 5$ and $2 / 3$.

## SECTION - D

35. Construct a quadrilateral PLAN in which $\mathrm{PL}=4 \mathrm{~cm}, \mathrm{LA}=6.5 \mathrm{~cm}, \angle \mathrm{P}=90^{\circ}, \angle \mathrm{N}=85^{\circ}$, $\angle \mathrm{A}=110^{\circ}$.
36. The shape of the top surface of a table is a trapezium. Find the area of the table whose parallel sides are 1 meter, and 1.2 meter.The perpendicular distance between them is 80 centimeters.
37. Factorise and divide them as directed.
a) $5 \mathrm{pq}\left(\mathrm{p}^{2}-\mathrm{q}^{2}\right) \div 2 \mathrm{p}(\mathrm{p}+\mathrm{q})$
b) $\left(y^{2}+7 y+10\right) \div(y+5)$
38. Draw a graph for the following.

| Side of square (in cm) | 2 | 3 | 3.5 | 5 | 6 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Perimeter in $($ in cm) | 8 | 12 | 14 | 20 | 24 |

Is it a linear graph?
39. What amount is to be repaid on a loan of ₹ 1,200 for 1.5 years at $10 \%$ per annum compounded half yearly?
40. Solve.
a) $\frac{\mathrm{z}}{2+15}=\frac{4}{9}$
b) $3(\mathrm{t}-3)=5(2 \mathrm{t}+1)$

