**Vikas Bharati Public School**
**Sample Paper (Session 2025-26)**
**Class: VIII**
**Subject: Mathematics**

**Time : 2 hours 30 minutes** **M.M : 60**

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***Note:*** 1. This question paper contains 4 printed pages and 29 questions.
2. Read the instructions carefully given in each section.

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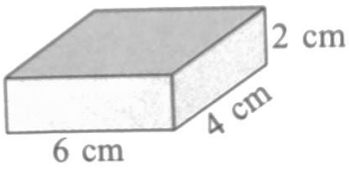
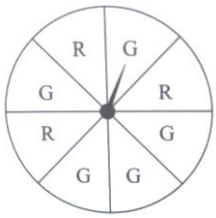
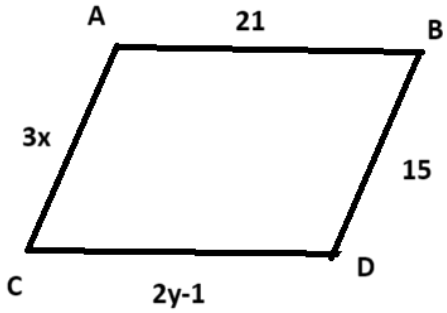
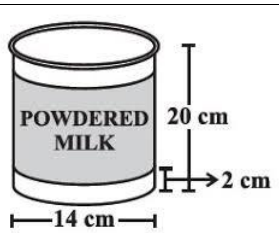
|---|---|---|---|---|---|---|
| | | **Section – A**<br>**All questions are compulsory. In MCQ write the correct option with a complete answer.** | | | | |
| 1. | | Which property allows you to compute $\frac{1}{3} \times \left(6 \times \frac{4}{3}\right)$ as $(\frac{1}{3} \times 6) \times \frac{4}{3}$? | | | | 1 |
| | | (A) Closure Property | (B) Associative property | (C) Additive Identity | (D) Multiplicative Identity | |
| 2. | | In a linear equation, the highest power of the variable is ___. | | | | 1 |
| | | (A) 1 | (B) 2 | (C) 3 | (D) 4 | |
| 3. | | What is the common factor of $25a^2b$ and $55ab^2$? | | | | 1 |
| | | (A) $5a^2b$ | (B) $5ab^2$ | (C) $5a^2b^2$ | (D) 5ab | |
| 4. | | ABCD is a rhombus. If $\angle A = 130°$ then find the measure of $\angle B$. | | | | 1 |
| | | (A) 70° | (B) 60° | (C) 50° | (D) 40° | |
| 5. | | The square of which of the following numbers would be an odd number? | | | | 1 |
| | | (A) 2826 | (B) 82004 | (C) 7779 | (D) 5050 | |
| 6. | | The list price of a frock is ₹220. A discount of 20% is announced on sales. Find the amount of discount on it. | | | | 1 |
| | | (A) ₹22 | (B) ₹44 | (C) ₹176 | (D) ₹100 | |
| 7. | | Find the sum of 0.3a and (- 0.5a). | | | | 1 |
| | | (A) 0.2a | (B) -0.8a | (C) -0.2a | (D) 0.8a | |
| 8. | | How many zeroes are there in the cube of the number 80? | | | | 1 |
| | | (A) 1 | (B) 2 | (C) 3 | (D) 5 | |
| 9. | | If each edge of a cube is doubled, how many times will its volume increase? | | | | 1 |
| | | (A) 2 times | (B) 4 times | (C) 6 times | (D) 8 times | |
| 10. | | A book has a market price of ₹300 excluding tax. If 6% GST is added to the cost of the book, what will be the total cost of the book including GST? | | | | 1 |
| | | (A) ₹320 | (B) ₹318 | (C) ₹334 | (D) ₹348 | |

| | | | |
|---|---|---|---|
| 11. | | **Fill in the blanks:** | 5 |
| | i) | The factors of $x^2 - 9$ are _____ and _____. | |
| | ii) | The number of sides of a regular polygon whose each exterior angle has a measure of 45° is ____. | |
| | iii) | The x-coordinate of the point (6 , 9) is ____ and y-coordinate is ____. | |
| | iv) | "The Slower the speed of a car, more is the time it takes to cover a given distance" is an example of _____ proportion. (direct/inverse) | |
| | v) | The total surface area of the following cuboid is _____.   | |
| 12. | | **Do as directed:** | 5 |
| | i) | Find the product: $\left(\frac{-10}{3}\ xy^3\right) \times (\frac{6}{5}\ x^3y)$ | |
| | ii) | Using identity, find the value of $(x+3)^2$ | |
| | iii) | Find the value of *m* such that $(-3)^{m+1} \times (-3)^5 = (-3)^7$ | |
| | iv) | Suppose you spin the given wheel. Find the probability of the pointer stopping on green sector.   | |
| | v) | Find the side of a square field whose area is 784 $m^2$. | |
| | | **Section – B**<br>**Do any 6 questions from Q13 to Q19. Over attempt will not be evaluated.** | |
| 13. | | Check whether x = 6 is the solution for the following equation or not?<br>If not, then find the correct solution of the equation.<br>$3x = 2x + 18$ | 2 |
| 14. | | Justify the following statement "The least perfect square number divisible by 5, 6, 8 is 3600". | 2 |
| 15. | | Is algebraic expression $5x^2 + 2$ a polynomial. Give reason to support your answer. | 2 |
| 16. | | The area of a rhombus is 240 $cm^2$ and one of the diagonals is 16 cm. Find the length of the other diagonal. | 2 |
| 17. | | Express the size of both bacteria in standard form and state which is bigger in size.<br>Bacterium A of size 0.0000002 m or Bacterium B of size 0.00000003 m? | 2 |
| 18. | | 6 taps can empty a tank in 8 hours. If 2 of the taps are not working, find the time taken by the remaining 4 taps to empty the tank. | 2 |

| | | | |
|---|---|---|---|
| 19. | | Factorise the following expression: $\mathbf{x^2 + 10x + 21}$ | 2 |
| | | **Section – C**<br>**Do any 4 questions from Q20 to Q24. Over attempt will not be evaluated.** | |
| 20. | | **Simplify using appropriate properties:** $\frac{2}{5} \times (\frac{-3}{7}) - \frac{1}{6} \times \frac{3}{2} + \frac{1}{14} \times \frac{2}{5}$ | 3 |
| 21. | | Solve: $5x + \frac{7}{2} = \frac{3}{2}x - 14$ | 3 |
| 22. | | The adjoining figure is a parallelogram. Find the value of x and y.<br>  <br> | 3 |
| 23. | | Find the cube root of 13824 by prime factorization method. | 3 |
| 24. | | **Show that:** $(9x - 5y)^2 + 180xy = (9x + 5y)^2$ | 3 |
| | | **Section – D**<br>**Do any 3 questions from Q25 to Q28. Over attempt will not be evaluated.** | |
| 25. | | Draw pie chart for the given data. | 4 |

| Favourite food | North Indian | South Indian | Chinese | Others |
|---|---|---|---|---|
| Number of people | 30 | 40 | 25 | 25 |

| | | | |
|---|---|---|---|
| 26. | | Amar wants to invest ₹10,000 for his son's education. He is considering two options for investment: a simple interest-bearing account and a compound interest-bearing account. Below are the available investment options:<br>Option 1 (Simple Interest): - Principal: ₹10,000 Rate of interest: 6% per year<br>Option 2 (Compound Interest): - Principal: Rs 10,000. Rate of interest: 5% p.a. compounded annually | 4 |
| | (i) | Calculate the simple interest and the total amount after 2 years. | |
| | (ii) | Calculate the compound interest and the total amount after 2 years. | |
| | (iii) | Which option would result in a higher return at the end of 2 years? | |

<table>
<tr><td>27.</td><td></td><td>A company packages its milk powder in a cylindrical container whose base has a diameter of 14cm and height 20cm. Company places a label around the surface of the container (as shown in the figure). If the label is placed 2cm from top and bottom, what is the area of the label?<br>  <br></td><td>4</td></tr>
<tr><td>28.</td><td></td><td>Draw the graph for the following table of values, with suitable scales on the axes.<br><u>Distance travelled by a car</u><br><table><tr><td>Time (in hours)</td><td>6 am</td><td>7 am</td><td>8 am</td><td>9am</td></tr><tr><td>Distances (in km)</td><td>40</td><td>80</td><td>120</td><td>160</td></tr></table></td><td>4</td></tr>
<tr><td></td><td>(i)</td><td>How much distance did the car cover during the period 7.30 a.m. to 8 a.m.?</td><td></td></tr>
<tr><td></td><td>(ii)</td><td>What was the time when the car covered 100 km since its start?</td><td></td></tr>
<tr><td></td><td></td><td>Section – E<br>In MCQ write the correct option with complete answer.</td><td></td></tr>
<tr><td>29.</td><td></td><td>A playground is in shape of a square. The area of the square PQRS is 256 $m^2$ with each side (x + 2) m. One day Suraj along with his two friends Ajay and Aman went to play there with bicycle. Someone stole Suraj bicycle, but Ajay and Aman helped him by contributing ₹(4a + 60) and ₹(6a + 10) respectively, to buy a new bicycle. The cost of new bicycle was ₹4200.<br>On basis of this information given in passage answer following questions.</td><td></td></tr>
<tr><td></td><td>(i)</td><td>Find the value of x.</td><td>1</td></tr>
<tr><td></td><td></td><td>(a) 16 (b) 18 (c) 14 (d) 12</td><td></td></tr>
<tr><td></td><td>(ii)</td><td>Find the side of square-shaped ground?</td><td>1</td></tr>
<tr><td></td><td></td><td>(a) 19 (b) 12 (c) 18 (d) 16</td><td></td></tr>
<tr><td></td><td>(iii)</td><td>What is the value of a?</td><td>1</td></tr>
<tr><td></td><td></td><td>(a) 410 (b) 403 (c) 413 (d) 423</td><td></td></tr>
<tr><td></td><td>(iv)</td><td>How much did Ajay and Aman each give to Suraj?</td><td>1</td></tr>
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