P.S. SENIOR SECONDARY SCHOOL

STD: VII MATHEMATICS – ENRICHMENT WORKSHEET

1. Barbed wire is to be put around a rectangular flowerbed measuring 20 m by 12m. If poles are erected after every one metre so that the barbed wire can be put around it, how many poles will be needed in all?
2. What is $2^{73} - 2^{72} - 2^{71}$.
3. Product of two numbers is 9. The reciprocal of one of these numbers is 4 times the reciprocal of the other number. What is the sum of the two numbers?
4. In a bag of marbles, $\frac{3}{2}$ of the marbles are blue and the rest are red. If the number of red marbles is doubled and the number of blue marbles stays the same, what fraction of the marbles will be red?
5. A company is producing two products A and B. The company makes a profit of ₹52 per unit on A and a loss of ₹10 per unit on B. If the company sells 3600 units of product A and 4000 units of product B, find the profit or loss of the company due to the sale.
6. A bug crawls along a number line starting from -2. It crawls to -6, turns around and crawls to 5. How many units does the bug crawl altogether?
7. Let $\angle ABC = 24^0$ and $\angle ABD = 20^0$. What is the measure of $\angle DBC$?
8. ABCD is a rectangle with AD = 10cm. P is the point on BC such that $\angle APD = 90^0$, If DP = 8 cm, find the length of BP?
9. A cricketer made 253 runs in the current IPL season. This is $\frac{2}{9}$ th more than what he made in the previous IPL last year. How many runs did he make last year?
10. If p = 2, q = 3 and r = 6, then evaluate : $\left(\frac{q}{p} + \frac{p}{q}\right)^{q^p}$
11. If the measure of one supplementary angle is twice the other then find the measure of each angle.
12. Three classes X, Y and Z take an algebra test. The average score in class X is 83. The average score in class Y is 76. The average score of all students in classes X and Y altogether is 79. The average score of all students in classes Y and Z together is 81. What is the average score of all the three classes?
13. Joseph purchased a horse at $\frac{9}{10}$ of its selling price and sold it at 8% more than its SP. Find his gain percent.
14. A man sells an article at 5% profit, If he had bought it at 5% less and sold it for ₹1 less, he would have gained 10%. Find the CP.
15. Two paths each of width 5 m are running perpendicular to each other in the middle of a rectangular park 120 m by 60 m. Find the area of the path and also the cost of gravelling the path at the rate of ₹5 per metre square.
16. The difference in age between a girl and her younger sister is 4 years. The younger sister in turn is 4 years older than her brother. The sum of the ages of the younger sister and her brother is 16. How old are the three children?
17. A regular six-pointed star is formed by extending the sides of a regular hexagon. If the perimeter of the star is 96cm, then find the perimeter of the regular hexagon.
18. The difference between the two numbers Δ and © is 300. What will be the difference between (Δ + 40) and (© - 60)?
19. A wire of length 176 cm is first bent into a square and then into a circle. Which one will have more area?
20. Given ΔABC, right angled at B. The bisectors of the acute angles of the triangle meet at 'O'. Find $\angle AOC$.