Department of Education,Sabaragamuwa Province – Weekly school

Subject - Mathematics

Week - 33

Grade 10

Prepared by – H.R.D.I.Jayasena
Kg/Dehi/Amithirigala M.V.

Second term revision exercise - 5

1. Simplify.
   i. $\frac{2}{X}+\frac{1}{3X}$
   ii. $\frac{5}{3a}-\frac{1}{a}$

2. Express each of the following in index form.
   i. $\log_5 125 = 3$
   ii. $\log_3 81 = 4$

3. Water is pumped into a tank at a rate of 500 milliliters per minute. What is the volume collected in the tank per hour?

4. Calculate the time it takes for a ship to travel 720 km ,at a uniform speed of 90 kmh^{-1}

5. Make h the subject of the formula $v = \frac{1}{3}\pi r^2 h$ and find the value of h when r = 7 and $\pi = \frac{22}{7}$.

6. Write down whether the statements made about parallelogram are true or false.

   - Opposite sides are equal in a parallelogram.
   - The diagonals bisect each other in parallelogram.
   - The opposite angles of a parallelogram are supplementary.

7. How much interest is received in three years when a loan of Rs.5000 is given at an annual simple interest rate of 8%?

8. If the total amount that have to be paid after 3 years to settle a loan borrowed at an annual simple interest rate of 12% is Rs.3600,
   i. How much interest for one year?
   ii. Find the loan amount.

9. In a certain village, 36 farmers grow potatoes and 18 farmers grow only chillies. Furthermore, the number of those who do not grow potatoes is 24 and the number of those who do not grow chillies is 26. By representing this information in a Venn diagram,
   i. How many of the farmers grow neither of the two crops?
   ii. How many of the farmers only grow potatoes?
   iii. How many of the farmers grow both crops?

10. Nayomi has Rs.50 consisting Rs.5 coins and Rs. 2 coins. The number of Rs.5 coins is 3 more than number of Rs.2 coins.
   i. Taking Rs.5coins as x and Rs.2 coins as y, construct a pair of simultaneous equations.
   ii. By solving the pair simulteneous equations find number of Rs.5coins and number of Rs.2 coins.
   iii. If Nayomi received number of Rs.10 notes of twice of number of Rs.5 coins, find the total amount Nayomi has now.

11. Find the equation of the straight line passing through the points (6,2) and (4,3)

12. Incomplete table of vales prepared to draw the graph of the function $y = -x^2 + 5$ is given below.

X	-3	-2	-1	0	1	2	3
y	-4		4	5		1	-4

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   i. Complete the table and draw the graph.
   ii. For graph write down,
      a. The equation of the axis of symmetry of the graph
      b. The coordination of the turning point.
      c. The maximum value or minimum value of the function.