MALOSHREE NIYOGI

ST. LAWRENCE HIGH SCHOOL
THIRD TERM – 2019

FOR GOD AND COUNTRY

Sub : ARITHMETIC **Class : VI** **F.M. : 90**
Duration : 2 HR 30 MIN SOLUTION **Date : 18.11.19**

GROUP – A

1. **MCQ** [1x5=5]

1.1 .If one symbol ⌘ represents 150 trees, then the number of trees represented by ⌘⌘⌘⌘⌘ are : Ans : c) 750

1.2 .A wire in the shape of an equilateral triangle of side 16 cm is rebent into a regular octagon. Each side of the octagon is : Ans : c) 6 cm

1.3 .The ratio of the areas of two squares is 16:25, then ratio of their perimeter is: Ans : b) 4:5

1.4 .Which of the following is the slowest speed? Ans : b) 90 m/min

1.5 .There are 60 members in a Maths Club. 70% of them are girls. $\frac{5}{14}$ of the girls belong to Class 6. How many Class 6 girls are there in the Maths Club? Ans : b) 15

2. **State TRUE or FALSE for the following statements** [1x4=04]

a) $\frac{12}{20}$ expressed as a per cent is 0.6 % Ans : FALSE

b) 250 cm is 4 % of 1 km Ans : FALSE

c) $\frac{8}{12}$ and $\frac{12}{21}$ are equivalent fractions Ans : FALSE

d) $\frac{41}{8}$ is a proper fraction Ans : FALSE

3. **Fill in the blanks** [1x16=16]

a) 12 ½ = 45 km/hr

b) 60 km/hr = $16\frac{2}{3}$ m/s

c) If you travel 60 km in 4 hour, your average speed = 15 km/hr

d) The distance run by a horse in 20 second at a speed of 15 m/s = 300 m

e) 1 ha = 10000 m^2

f) side of a square = ¼ x perimeter

g) A collection of information in the form of numerical figures is called data.

h) The width of the bar in a bar graph remains the same for all bars.

i) The shape of bar graph is rectangular

j) $\frac{37}{100}$ = 37 %

k) $2\frac{3}{16}$ = (875/4) % = 218 ¾ % = 218.75 %

l) 2.05 = 205 %

m) 12 % of 18.6 kg = 2.232 kg

n) Increase 6 kg by 8 % = 6.48 kg

o) Decrease 300 by 30% = 210

p) $\frac{8}{12} \div \frac{5}{18} = 2\frac{2}{5}$

GROUP – B

A. Answer the following question: [2x5=10]

1. Find the mean value of the following data set: 100, 102, 104, 106, 108, 110, 112, 114.
Ans: Mean = (100 + 102 + 104 + 106 + 108 + 110 + 112 + 114)/8 = 107
2. Find the area of a rectangle whose length is 18 cm and breadth is 13 cm.
Ans: Area of the rectangle = Length x Breadth = 18 cm x 13 cm = 234 sq cm
3. Find the area of the square photo frame of side 10 cm.
Ans : Area of the square photo frame of side 10 cm = Side x Side = 10cm x 10 cm = 100 sq cm
4. Express 125 % as a fraction in its lowest terms.
Ans : 125% = 125/100 = 5/ 4 = 1¼
5. Express speed 20 m/s in km/hr.
Ans : 20 m/s = 20 x 18/5 km/hr = 72 km/hr

B. Answer the following questions: (any 5) [3x5=15]

1. A motorist travelled at a speed of 70 km/hr. At this speed how far he could travel in 7 hours?
Ans : Distance = Speed x time = 70 km/hr x 7 hr = 490 km
2. Find the mean and median of the following data set : 1, 7,7, 4, 9, 6, 4, 5, 6, 4
Ans: 1, 4, 4, 4, 5, 6, 6, 7, 7, 9 Median = (5+ 6)/2 = 5.5
Mean = (1 + 4 + 4 + 4 + 5 + 6 + 6 + 7 + 7 + 9)/ 10 = 5.3
3. Find the length of one side of a regular hexagon if its perimeter is 222 mm.
Ans: Perimeter of the regular Hexagon = 222 mm
Number of sides of the regular hexagon = 6
Length of one side of a regular hexagon = Perimeter / Number of sides = 222/6 mm = 37 mm
4. A school library has 600 books out of which 540 books are fiction. What % of the books are fiction?
Ans : The percent of the books that are fiction = (Number of Books that are fiction / total number of books) x 100 % = (540 / 600) x 100% = 90%
5. Simplify: $1 + 1 \div \{1 + 1 \div (1 + \frac{1}{3})\}$

Ans : $1 + 1 \div \{1 + 1 \div (1 + \frac{1}{3})\} = 1 + 1 \div \{1 + 1 \div (\frac{4}{3})\} = 1 + 1 \div \{1 + \frac{3}{4}\}$

$= 1 + 1 \div \frac{7}{4} = 1 + \frac{4}{7} = \frac{11}{7} = 1\frac{4}{7}$

6. Find the mean of the following data sets: 12, 14 10, 9, 11, 16
Ans: Mean = (12+14 +10 + 9 + 11 + 16)/ 6 = 12
7. Find the median of the given data values : 3, 2, 7, 0, 9 , 5, 6, 4, 8,
Ans : 0, 2, 3, 4, 5, 6, 7, 8, 9; Median = 5

GROUP – C

I . Answer the following questions: (Any 8) **[5 X 8=40]**

1.Find the mean and median of the following data set: 30, 28, 34, 32, 29, 33, 31, 35.
Ans : 28, 29, 30, 31, 32, 33, 34, 35
Mean = (28 + 29 + 30 + 31 + 32 + 33 + 34 + 35)/ 8 = 252/ 8 = 31.5
Median = (31+32)/2 = 63/2 = 31.5
2. Each side of a square handkerchief is 16 cm . Find the cost of a lace needed to be put around the handkerchief if it costs Rs 125 per metre.
Ans: Perimeter of the square handkerchief = 16 cm x 4 = 64 cm = 0.64 m
Thus the cost of putting lace = 0.64 x Rs 125 = Rs 80
3.Simplify : $\frac{4}{9}$ of $(\frac{4}{9} + \frac{2}{3}) \div 2\frac{2}{3}$

Ans : $\frac{4}{9}$ of $(\frac{4}{9} + \frac{2}{3}) \div 2\frac{2}{3} = \frac{4}{9}$ of $(\frac{10}{9}) \div 2\frac{2}{3} = \frac{8}{9} \div \frac{8}{3} = \frac{1}{3}$

4. Raman did $\frac{1}{2}$ of the work on Monday and $\frac{1}{3}$ of the work on Tuesday. How much work will he have to do on Wednesday to complete the remaining work ?
Ans : Total work done on Monday and Tuesday = $\frac{1}{2} + \frac{1}{3} = \frac{5}{6}$
Thus Work to be done on Wednesday = $1 - \frac{5}{6} = \frac{1}{6}$
5. How many envelopes can be made out of a sheet of paper 125 cm by 85 cm supposing each envelope requires a piece of paper of size 17 cm by 5 cm ?
Ans: Area of the envelope = 125 cm x 85 cm
Area of the paper = 17 cm x 5 cm
Number of envelopes = (125 cm x 85 cm) / 17 cm x 5 cm = 125
6. If 13 m of a uniform iron rod weigh 78 kgs , what will be the weight of 15 m of the same rod ?
Ans : 13 m of rod weighs 78 kg
Thus 15 m of rod weighs = (78/13) x 15 kg = 90 kg
7. If 11 books can be purchased for Rs 99 , how many such books can be purchased for Rs 540 ?
And : Rs 99 is the cost of 11 books
Rs 540 is the cost of (11/99) x 540 = 60 books
8. An article marked Rs 150 . Raman wants to purchase it for Rs138. How many per cent discount did Raman ask for ?
Ans : Amount of discount = Rs (150 – 138) = Rs 12
Thus percent discount = (12/150) x 100 % = 8 %
9. In a examination , there were 640 boys and 360 girls. 60% of the boys and 80% of the girls were successful . How many in all failed ?

Ans : Percentage of boys failed = 100% - 60 % = 40 %
Therefore number of boys failed = 40 % of 640 = (40/ 100) x 640 = 256
Percentage of girls failed = 100% - 80 % = 20%
Therefore number of girls failed = 20 % of 360 = (20/100) x 360 = 72
Therefore total number of failures = 256 + 72 = 328
10. A train is running at a speed of 90 km/hr. If it crosses a signal in 10 seconds. Find the length of the train in metres.

Ans : speed of the train = 90 km/hr = 90 x 5/18 m/s = 25 m/s
Thus the length of the train = speed x time = 25 m/s x 10 m = 250 m