D.A.V. PUBLIC SCHOOLS, BHUBANESWAR.
Summative Assessment-I. 2016-17
CLASS – VII
MATHEMATICS

Time: $2\frac{1}{2}$ hours   *Maximum Marks:90*

General Instructions:
(i)   *The question paper is divided into 4 sections A, B, C & D.*
(ii) *Section-A consists of 8 multiple choice questions of 1 mark each.*
(iv) *Section-B consists of 6 SA-I type questions of 2 marks each with one internal choice question.*
(iv) *Section-C consists of 10 SA-II type questions of 3 marks each with one internal choice questions.*
(v)   *Section-D consists of 10 long type questions of 4 marks each with two internal choice questions.*

SECTION-A (8 x 1 = 8)

Choose the correct option:

1. If the product of two non-zero rational numbers is 1, then they are
    (a)   additive inverse of each other   (b)   multiplicative inverse of each other
    (c)   reciprocal of each other   (d)   both (b) and (c)

2. Out of 5brands of chocolates in a shop, a boy has to purchase the brand which is most liked by children. What measure of central tendency would be most appropriate if the data is provided to him ?
    (a)   Mean   (b)   Median   (c)   Mode   (d) Any of the three

3. Which of the following is a solution of the equation.
    $$3x - 7 = 7 - 4x$$
    (a) $x = 0$ (b) $x = 14$ (c) $x = 2$ (d) $x = 1$

4. In a certain code, Monday is written as ODYMNA, then in the same code NOVEMBER will be written as:
    (a)   OEBRNVME (b)   ONVMEBER (c)   OBRNEVME (d)   OPWFNCFS

5. A is brother of B. C is wife of A. What is C of B ?
    (a)   Brother   (b)   Sister-in-law (c)   Father-in-law (d)   Mother-in-law

6. Some students are standing in a line for a PT drill. Sumeet is 12th from left and 13th from right. How many students are standing in this line ?
    (a)   22   (b)   23   (c)   25   (d)   24

7. Observe the sequence: 2, 2, 9, 9, 2, 9, 2, 9, 9, 2, 9, 9, 2, 9, 9, 9, 2, 2, 9, 9.
    How many times 9's are followed by 2's ?
    (a)   2   (b)   4   (c)   5   (d)   3

8. A plane flying in North-West direction turns clockwise by an angle of $45°$. In which direction is it flying now ?
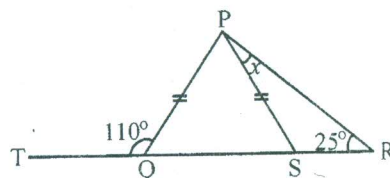   (a)   North   (b)   South   (c)   West   (d)   South-east

9. Express $-\dfrac{4}{7}$ as a rational number with (i) numerator 12 (ii) denominator 28.

10. Simplify $\dfrac{5}{4} - \dfrac{7}{6} - \left(\dfrac{-2}{3}\right)$

11. Express $\dfrac{133}{25}$ as decimals without long division.

12. Evaluate $\dfrac{(0.2 \times 0.14) + (0.5 \times 0.91)}{(0.1 \times 0.2)}$

13. In figure, PQ = PS, $\angle PRS = 25°$ and $\angle PQT = 110°$. Find the value of x.

14. The mean of 8 observations was found to be 57. Later on, it was discovered that one observation, ie, 48 was misread as 84. Find the correct mean.

OR

The median of observations 11, 12, 14, 18, x, $x + 2$, 25, 28, 30, 61 arranged in ascending order is 20, find the value of x.

SECTION-C (10 x 3= 30)

15. Arrange the following rational numbers in descending order:
$$\dfrac{-3}{10}, \dfrac{-7}{-5}, \dfrac{9}{-15}, \dfrac{18}{30}$$
OR

Represent $5\dfrac{1}{3}$ and $\dfrac{-29}{4}$ on a number line.

16. Find the reciprocal of $\dfrac{-2}{3} \times \dfrac{5}{7} + \dfrac{2}{9} \div \dfrac{1}{3} \times \dfrac{6}{7}$.

17. Express $\dfrac{5}{11}$ as decimals by suing long division method. Is the decimal number terminating or non-terminating ?

18. Simplify and express the result as a rational number in its lowest terms:
$$1.44 \times (144 \div 12) - 0.225 + 3.276.$$

19. There are 40 papers of students of a class to be checked by 2 teachers. Mr. Ashok can check 5 papers in an hour and Mrs. Meena can check 4 papers in an hour. If Mr. Ashok spends three hours in checking the papers and Mrs. Meena works for two hours, what percentage of the papers will be checked in all ?

20. A man purchased a cell phone for ₹2000. By paying ₹200 more, he replaces its body (case). If he sells the cell phone for ₹2500, find his profit or loss percent.

OR

Simple interest on a sum of money at the end of 5 years is $\frac{4}{5}$ of the sum itself. Find the rate percent per annum.

21. Solve: $\frac{6p+1}{3} + 1 = \frac{7p-3}{2}$ and check the answer.

22. Two equal sides of an isosceles triangle are each 2cm more than thrice the third side. If the perimeter of the triangle is 67cm, find the lengths of its sides.

23. The foot of a ladder is 6m away from a wall and its top reaches a window 8m above the ground. If the ladder is shifted in such away that its foot is 8m away from the wall, to what height does its top reach?

OR

Two poles 11m and 6m high are standing on the ground. If their feet are 12m apart, find the distance between their tops.

24. A point O is in the interior of a $\triangle ABC$. Show that $2(OA + OB + OC) > AB + BC + CA$.

SECTION-D (10 x 4 = 40)

25. Marks obtained by five students of class VII in SA-I and SA-II examinations, 2014 in Mathematics (out of 50) are given below. Represent this data by means of double bar graph.

| Students	Swati	Sharad	Shekhar	Arpit	Sachin
Half-yearly Exam.	40	15	25	48	29
Final Exam.	42	28	48	46	33

26. A man sold two bed sheets at ₹600 each. On one he gains 20% and on the other he loses 25%. How much does he gain or lose in the whole transaction?

27. Rohit donated $\frac{1}{5}$ of his monthly income at an NGO working for the education of the girl child, spent $\frac{1}{4}$ of his salary on food, $\frac{1}{3}$ on rent and $\frac{1}{15}$ on other expenses. He is left with ₹9000.
    (a) Find Rohit's monthly salary.
    (b) What values of Rohit are depicted here?

28. A bucket contains $24\frac{3}{4}$ litres of water. How many $\frac{3}{4}$ litre jugs can be filled from the bucket to get it emptied?
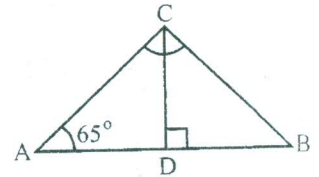
OR

By taking $x = \frac{-5}{3}, y = \frac{2}{7}$ and $z = \frac{1}{-4}$, verify that $x \div (y + z) \neq x \div y + y \div z$
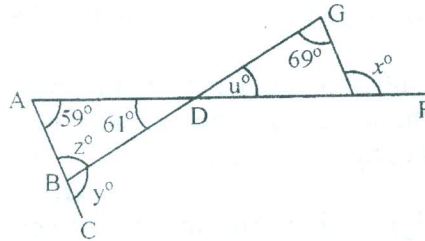
29. In the given figure, find the measure of ∠1, ∠2, ∠3, ∠4 and find sum of all the exterior angles.
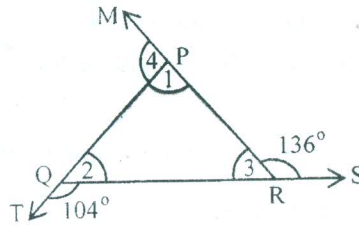
30. ΔABC is right angled at C and CD ⊥ AB.
Also, ∠A = 65°.
Find (i) ∠CBD (ii) ∠BCD (iii) ∠ACD.

31. In the figure, ∠A = 59°,
∠G = 69° and ∠ADB = 61°.
Find the values of $x°$, $y°$, $z°$, $u°$.

32. Draw an equilateral triangle of whose sides is 6cm. Draw its medians. Are they equal ? What is the point of intersection of 3 medians known as ?

33. Present age of Veena's mother is four times Veena's age. Five years hence, her age will be 21 years more than Veena's age. Find their present ages.

OR

Sudesh is twice as old as Seema. If 6 years is subtracted from Seema's age and 4 years are added to Sudesh's age, Sudesh will be 4 times Seema's age. How old were they three years ago ?

34. A table costs ₹ 200 more than a chair. The price of two tables and three chairs is ₹ 1400. Find the cost of each.

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