KENDRIYA VIDYALAYA SANGATHAN VARANASI REGION
HALF YEARLY EXAMINATION (2018 -19)

TIME: 2:30 hours   CLASS – VII   SUB : MATHEMATICS   Max Marks: 80

General Instructions:
1. All questions are compulsory.
2. Question paper consists four sections.
3. Marks are given against each sections.

SECTION – A   1 x 6 = 6

1. $-53 + \ldots\ldots\ldots = -53$

2. Multiply : $7 \times \frac{3}{5}$

3. Write equations for the statement: The sum of numbers x and 4 is 9.

4. Can two right angles be complement to each other?

5. How many medians can a triangle have?

6. Find the ratio of: 150 paise to 50 paise .

### SECTION – B   2 x 6 = 12

7. Solve: $4 + \frac{7}{8}$

8. Solve: $3n - 2 = 46$

9. Identify which of the following pairs of angles are complementary and which are supplementary.

   (i) 65^0, 115^0 (ii) 63^0, 27^0

10. Write **Side-Side Side** criteria for Congruence of two triangles .

11. Find: (a) 15% of 250

12. Cost of an item is Rs 50. It was sold with a profit of 12%. Find the Profit in rupees .

### SECTION – C   3 x 10 = 30

13. Evaluate each of the following:

   (a) $(-30) \div 10$ (b) $(-3) \times (-6) \times (-2) \times (-1)$

14. Find the area of rectangle whose length is 5.7cm and breadth is 3 cm.

15. The marks (out of 100) obtained by a group of students in a science test are

      85, 76, 90, 85, 39, 48, 56, 95, 81 and 75. Find the:

   (i) Highest and the lowest marks obtained by the students.

   (ii) Mean marks obtained by the group.

16. Set up equation and solve to find the unknown numbers in the following case:

   (a) Add 4 to eight times a number; you get 60.

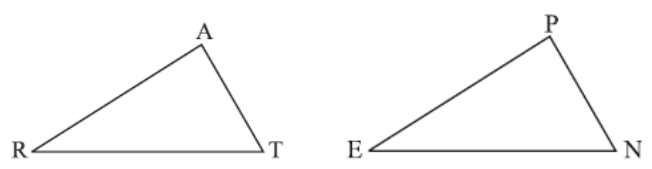17. Find the values of the angles x, y, and z in each of the following:
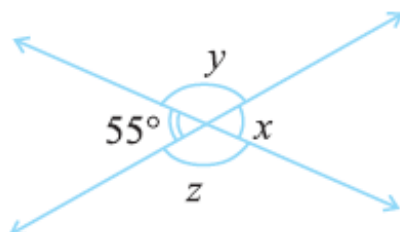
18. Find the values of the unknowns x and y in the following diagrams:
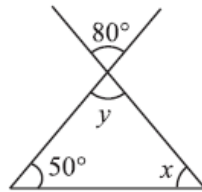
19. Is it possible to have a triangle with the following sides?

    3 cm, 6 cm, 7 cm

20. To show that   Δ ART ≅ Δ PEN,
    If you have to use SSS criterion, then you need to show

    (i) AR = ………(ii) RT = ……………… (iii) AT = ……………..

21. The population of a city decreased from 25,000 to 24,500. Find the percentage decrease.

22. Find the whole quantity if   (a) 5% of it is 600.

**SECTION – D**   **4 x 8 = 32**

23. Verify $(-30) \times [13 + (-3)] = [(-30) \times 13] + [(-30) \times (-3)]$

24. The length of a rectangle is 7.1 cm and its breadth is 2.5 cm. What is the area and perimeter of the rectangle?

25. The runs scored in a cricket match by 11 players is as follows:

    6, 15, 120, 50, 100, 80, 10, 15, 8, 10, 15 .

    Find the **mode and median** of this data. Are the two same?

26. Following data gives total marks (out of 600) obtained by six children of a particular class.

    Represent the data on a bar graph.

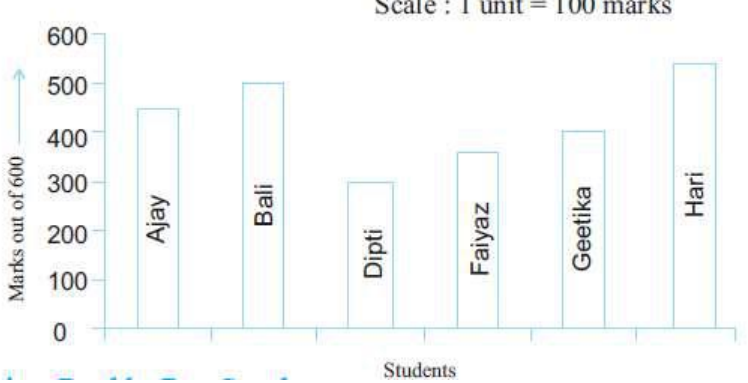| Students	Ajay	Bali	Dipti	Faiyaz	Geetika	Hari
Marks Obtained	450	500	300	360	400	540

27. The teacher tells the class that the highest marks obtained by a student in her class is twice the lowest marks plus 7. The highest score is 87. What is the lowest score?

28. In the adjoining figure, identify

(i) Two pairs of corresponding angles (ii) The pairs of alternate interior angles.
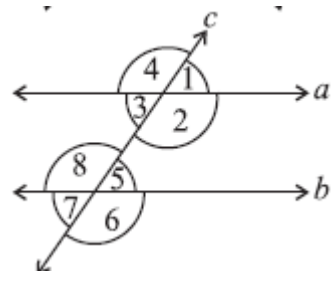
29. PQR is a triangle right angled at P. If PQ = 10 cm and PR = 24 cm, find QR.

30. Find the amount to be paid at the end of 3 years in following case:Principal = Rs 1,200 at 12% p.a.

S .No	Answer	Marks
	GROUP - A	
1	0 (Zero)	1
2	$\frac{21}{5}$	1
3	X + 4 = 9	1
4	No	1
5	Three Medians	1
6	$\frac{150}{50}$ = 3:1	1
	GROUP - B	
7	$4 + \frac{7}{8} = \frac{4 \times 8 + 7}{8} = \frac{32+7}{8} = \frac{39}{8}$	2
8	3n − 2 = 46 , 3n = 46 +2 , 3n = 48 , n = $\frac{48}{3}$ = 16	2
9	(a) Supplementary (b) Complementary	2
10	**Side-Side Side criteria** – "If the three sides of one triangle are equal to the three corresponding sides of another triangle, then the triangles are congruent."	2
11	15% of 250 = $\frac{15}{100}$ x 250 = $\frac{375}{10}$ = 37. 5	2
12	Profit = 12% of 50 = $\frac{12}{100}$ x 50 = $\frac{600}{100}$ = 6	2
	GROUP- C	
13	(a) (- 30) ÷ 10 = (- 3) (b) (-3) x(-6) x(-2)x (-1) = 36	3
14	Area of Rectangle = Length X Breadth = 5.7 X 3 = 17.1 Cm^2	3
15	Highest Marks= 95 , Lowest marks = 39 Mean = $\frac{85+76+90+85+39+48+56+95+81+75}{10} = \frac{730}{10}$ =73	3
16	Let,The Number =x According to the question, 8x + 4= 60 , 8x = 60 − 4 , 8x = 56 , x = $\frac{56}{8}$ =7	3
17	X= 55^0 , 55^0 + y = 180^0 , y = 180^0 - 55^0 = 125^0 Y = z = 125^0	3
18	Y = 80^0 , 50^0 + 80^0 + x = 180 , 130^0 + x = 180^0 X = 180^0 - 130^0 = 50^0	3
19	3+6>7 Yes , 3+7>6 Yes , 7+6>3 Yes	3
20	(i) AR = **PE** **(II)** RT = **EN** (III) AT = **PN**	3
21	Decrease in Population = 25000 − 24500 = 500 Percentage decrease = $\frac{Decrease \times 100}{Present\ Population} = \frac{500 \times 100}{25000}$ = 2%	3
22.	5% of Y = 600 , $\frac{5}{100}$ x Y = 600 , 5Y = 600 x 100 Y = $\frac{600 \times 100}{5}$ = 12000 .	3
	GROUP- D	
23	(–30) × [13 + (–3)] = (–30) × 10 = –300 [(–30) × 13] + [(–30) × (–3)] = –390 + 90 = –300 So, (–30) × [13 + (–3)] = [(–30) × 13] + [(–30) × (–3)]	4
24	Length =7.1cm , Breadth = 2.5 cm Area of rectangle = l x b = 7.1 x 2.5 = 177 . 5 cm^2 Perimeter of Rectangle = 2(l + b) = 2 (7.1 + 2.5) = 2 x 9.6 = 19.2 cm	4

25	Ascending Order = 6,8,10,10,15,15,15,50,80,100,120 Mode = 15 Median = $\frac{n+1}{2}$ th term = $\frac{11+1}{2}$ th term $\qquad$ $\frac{12}{2}$ th term = 6th Term = 15 $\qquad$ **Median = 15**	4
26.		4
27.	Let, Lowest Score = X Highest Score = 2X + 7 According to the Question, 2 X + 7 = 87 . 2X = 87 – 7 , 2X = 80 , X = 40 **Lowest Score = 40**	4
28.	(a) Two pairs of corresponding angles are <1 & < 5 and <4 & < 8 (b) The pairs of alternate interior angles. <2 & < 5 and <3 & < 8	4
29.	QR^2 = PR^2 + PQ^2 QR^2 = (24)^2 + (10)^2 = 576 +100 = 676 QR^2 = (26)^2 , QR = 26 cm.	4
30.	P = Rs.1200 , r = 12 % , t = 3 Years . S.I.= ? , Amount = ? S.I. = $\frac{P.\ r\ .t}{100}$ = $\frac{1200\ x\ 12\ x\ 3}{100}$ = Rs. 432. Amount = P + SI = 1200 + 432 = Rs.1632.	4