AMRITA VIDYALAYAM

HALF YEARLY EXAMINATION 2017 - '18

Class : VII   **Marks : 80**

                                                       Time   : 2½ hrs

MATHEMATICS

GENERAL INSTRUCTIONS:

Questions 1 to 4 carry 1 mark each.

Questions 5 to 9 carry 2 marks each.
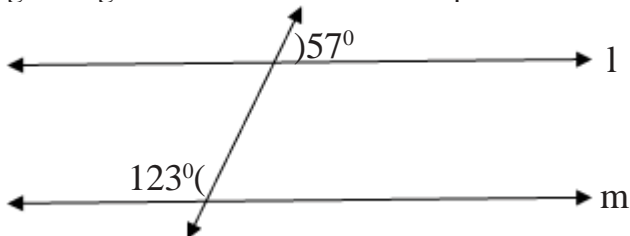
Questions 10 to 19 carry 3 marks each.

Questions 20 to 28 carry 4 marks each.

SECTION - A

1. Write any two pairs of integers whose sum is -8.
2. An angle is equal to four times its complement. Determine the angles.
3. Express 230426 in standard form.
4. Define 'Range' of data.

SECTION - B

5. In the given figure decide whether line 'l' is parallel to 'm'.

6. Find the value of
   a) 9^3 b) 5^4
7. A car covers a distance of 89.1 km in 2.2 hours. What is the average distance covered by it in 1 hour?
8. Find using suitable properties.
   a) $56 \times (-28) + (-28) \times (-46)$ b) $7 \times (50 - 2)$
9. A coin is flipped to decide which team starts the game. What is

the probability that your team will start?

SECTION - C

10. Compare the numbers.

    a) 2.7×10^{12}, 1.5×10^{8} b) 4×10^{14}, 3×10^{17}

11. Find.

    a) 32.3×11.2 b) $7.75 \div 0.25$ c) $98.53 \div 1000$

12. 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

    a) Highest and the lowest marks obtained by the students.
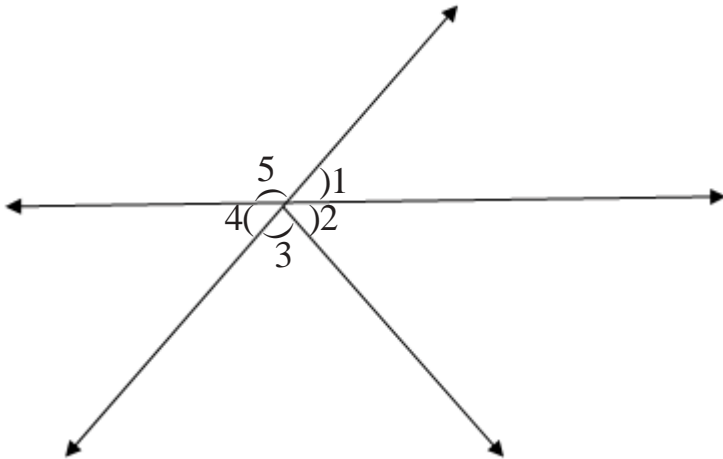
    b) Range of the marks obtained.

    c) Mean marks obtained by the students.

13. Indicate which pairs of angles are

    a) vertically opposite angles.   b) linear pair.

14. The temperature at 12 noon was 10°C above zero. If it decreases at the rate of 2°C per hour until midnight, at what time would the temperature be 8°C below zero? What would be the temperature at midnight?

15. The runs record in a cricket match by 11 players is as follows. 6, 15, 120, 50, 100, 80, 10, 15, 8, 10, 15. Find the mean, mode and median of this data. Are the three same?
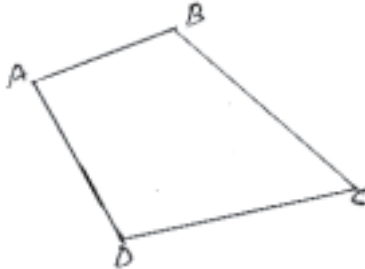
16. Find
    a) $-12 \times -11 \times 10$ b) $(-6 + 4) \div (-2 + 1)$
    c) $39 + [(-24) - 15]$

17. Amal went from place 'A' to place 'B' and from there to place 'C'. A is 8.3 km from B and B is 13.8 km from C. Binesh went from place A to place D and from there to place C. D is 11.3 km from A and C is 12.9 km from D. Who travelled more, and by how much?
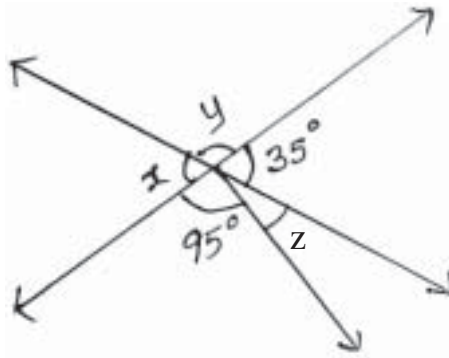

18. Simplify and write in exponential form.
    a) $(2^{20} \div 2^{15}) \times 2^3$ b) $(5^2)^3 \div 5^3$ c) $8^x \div 8^5$

19. Find x, y and z.

SECTION - D

20. In a class test containing 15 questions 4 marks are given for every correct answer and (-2) marks are given for every incorrect answer.
    a) Akshay attempts all questions and only 8 of his answers are correct. What is his total score?
    b) One of his friends gets only 4 answers correct. What will be

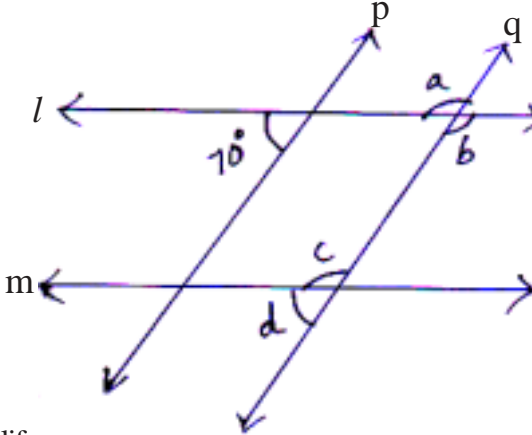3-VII Math

his score?

21. Find

a) $\dfrac{-8}{19} + \dfrac{-2}{57}$

b) $-2\dfrac{1}{9} + 4\dfrac{3}{5}$

c) $\dfrac{-6}{5} \times \dfrac{9}{11}$

d) $\dfrac{-7}{12} \div \dfrac{-2}{13}$

22. If lines $l \parallel m$, $p \parallel q$ find a, b, c and d.

23. Simplify.

a) $\dfrac{15^4 \times 9^4 \times 80}{12^2 \times 27^2}$

24. A shop keeper earns a profit of ` 1 by selling one pen and incurs a loss of 40 paise per pencil while selling pencils of her old stock.
   a) In a particular month she incurs a loss of ` 5. In this period she sold 45 pen. How many pencils did she sell in this period?
   b) In the next month she earns neither profit nor loss. If she sold 70 pens, how many pencils did she sell?

25. Express each as a product of prime factors only in exponential form.

a) 108×192

b) 729×64

26. Number of children in five different sections of class 6 are given below. Represent the data on a bar graph.

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Section	A	B	C	D	E
Number of children	35	45	35	40	33

a) Which section has the minimum and which section the maximum number of children?

b) Find the ratio of students of section A to students of section D.

27. Verify that a ÷ (b + c) ≠ (a ÷ b) + (a ÷ c) if
    a) a = 12, b = -4, c = 2   b) a = 20, b = -5, c = 3

28. Consider the data below collected from a colony.

Favourite sport	Cricket	Basket ball	Tennis	Hockey	Athletics
Watchers	1240	470	510	430	250
Participations	620	320	320	250	105

a) Draw a double bar graph choosing an appropriate scale.

b) Which sport is most popular ?