

SATISH CHANDRA MEMORIAL SCHOOL

CLASS VIII

SUMMER VACATION TASK SESSION 2024-25

1. The associative property can be applied to which of the given operations?

a. Subtraction and addition	b. Division and Multiplication
c. Multiplication and Addition	d. Division and Subtraction

2. In between $\frac{3}{4}$ and 1, how many rational numbers are there?

a. 0	b. 1
c. 2	d. countless

3. The rational number that does not have a reciprocal is

a. 0	b. 1
c. 4	d. -4

4. The sum of the additive inverse and multiplicative inverse of 2 is

a. $\frac{3}{2}$	b. $-\frac{3}{2}$
c. $\frac{1}{2}$	d. $-\frac{1}{2}$

5. The additive inverse of $-\frac{7}{19}$ is

a. $-\frac{7}{19}$	b. $\frac{7}{19}$
c. $-\frac{19}{7}$	d. $\frac{19}{7}$

6. If y is the reciprocal of rational number x, then the reciprocal of y will be

a. X	b. y
c. $\frac{x}{y}$	d. $\frac{y}{x}$

7. An integer can be

a. Only positive	b. Only negative
c. Both positive & negative	d. None of these

8. What is the value of 100 divided by 0?

a. 0	b. 100
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c. 1	d. undefined
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9. What should be subtracted from $-\frac{2}{3}$ to get -1?

a. $\frac{1}{3}$	b. $-\frac{1}{3}$
c. $\frac{2}{3}$	d. $-\frac{2}{3}$

10. The multiplicative identity of rational numbers is

a. 0	b. 1
c. 2	d. -1

11. What is the solution to the equation $-2x + 4 = 6$?

(a) -1	(b) 1
(c) 2	(d) -2

12. Which of the following graphs represents a linear equation?

(a) Parabola	(b) Circle
(c) Straight line	(d) Hyperbola

13. If $2x + 3 = x + 9$, what is the value of x?

(a) 3	(b) 6
(c) 9	(d) 12

14. Which of the following equations is not a linear equation?

(a) $3 = 2x + 5$	(b) $2y + 3 = x$
(c) $3(x - 1) = 2x + 4$	(d) $4x^2 - 8x = 2$

15. What is the solution to the equation $4(2x - 3) = 20$?

(a) 4	(b) 5
(c) 6	(d) 10

16. Which of the following equations represents a linear equation in one variable?

(a) $5x^2 + 3 = 2$	(b) $2(x + 3) = 10y$
(c) $\sqrt{x} + 7 = 15$	(d) $4x - 9 = 3x + 2$

17. Which of the following is the correct solution to $6x - 11 = 23$?

(a) 3	(b) 6
(c) 5	(d) 4

18. Which equation below represents "nine more than twice a number x is equal to 5"?

(a) $2x + 9 = 5$	(b) $x + 9 = 5$
(c) $2x - 9 = 5$	(d) $2x + 9 = 5$

19. If $x = a$, then which of the following is not always true for an integer k.

(a) $kx = ak$	(b) $\frac{x}{k} = \frac{a}{k}$
(c) $x - k = a - k$	(d) $x + k = a + k$

20. The solution of which of the following equations is neither a fraction nor an integer.

(a) $3x + 2 = 5x + 2$	(b) $4x - 18 = 2$
(c) $4x + 7 = x + 2$	(d) $5x - 8 = x + 4$

21. The measure of each exterior angle of a regular octagon is

(a) 10°	(b) 24°
(c) 45°	(d) 90°

22. Two adjacent angles of a parallelogram are $(5x + 20)^\circ$ and $(6x + 50)^\circ$, then the value of x is

(a) 10	(b) 150
(c) 18	(d) 30

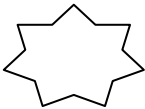
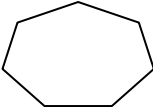
23. Two diagonals of a rectangle are of length $(7x - 17)\text{cm}$ and $(3x + 11)\text{cm}$, then the value of x is

(a) 10	(b) 7
(c) 9	(d) 12

24. Which of the following is a 'Simple closed curve'?

(a) 	(b) 
(c) 	(d) 

25. Which of the following is a concave polygon?

(a) 	(b) 
(c) 	(d) 

26. How many sides does a regular polygon have if each of its interior angle is 108° ?

(a) 5	(b) 10
(c) 15	(d) 18

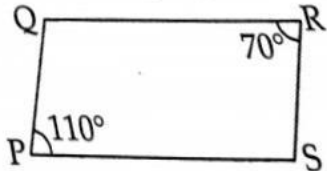
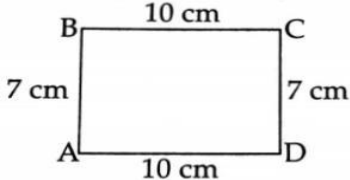
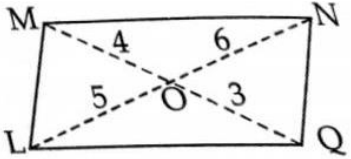
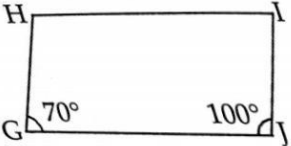
27. The lengths of diagonals of a rhombus are 24cm and 10cm, then the length of each side of the rhombus is

(a) 13 cm	(b) 12 cm
(c) 9 cm	(d) 14 cm

28. A parallelogram with sides of equal length is called _____.

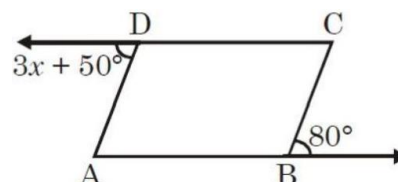
(a) Rectangle	(b) Square
(c) Rhombus	(d) Trapezium

29. Which of the following figures can be a parallelogram?

(a) 	(b) 
(c) 	(d) 

30. In the adjacent figure, ABCD is a parallelogram.

What is the value of x ?



(a) 5	(b) $50/3$
(c) $130/3$	(d) 10

CASE STUDY 1:

The table shows the portion of some common materials that are recycled.

MATERIAL	RECYCLED
Paper	$\frac{5}{11}$
Aluminium cans	$\frac{5}{8}$
Glass	$\frac{2}{5}$
Scrap	$\frac{3}{4}$

- (A) Is the rational number expressing the amount of paper recycled more than $\frac{1}{2}$ or less than $\frac{1}{2}$?
- (B) Which items have a recycled amount less than $\frac{1}{2}$?

CASE STUDY 2:

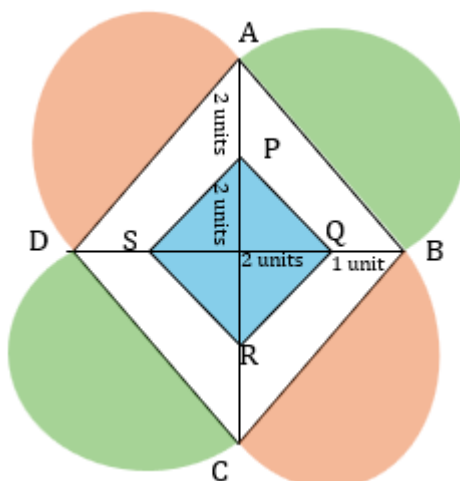
Rajendra a farmer had two sons and two daughters. He decided to divide his property among his sons and daughters. So he wrote a "WILL" about distribution of his property. According to his "WILL", he desired to give $\frac{3}{5}$ th of the property to his sons in equal proportion, $\frac{1}{3}$ rd to his daughters in equal proportion and rest to a charitable trust. After his death his "WILL" was opened and read out by the Advocate in the presence of all villagers.



- (A) How much of the property each son gets?
- (B) How much of the property each daughter gets?
- (C) How much of the property Charitable Trust gets?

Case Study 3:

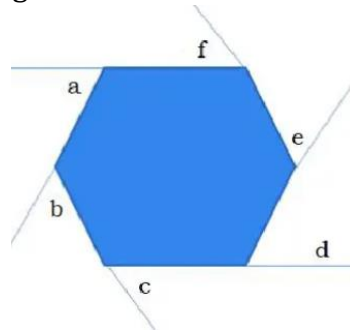
In a 'Rangoli' competition, a 'Rangoli' has been drawn on the floor of school by SCMS students. ABCD and PQRS both are in the shape of rhombus and four semi-circles drawn on each side of rhombus ABCD. The figure is shown below:



- (a) Is PQRS a special kind of rhombus? If yes, then write the name of that kind.
- (b) What are the lengths of the diagonals of the rhombus PQRS and the rhombus ABCD?
- (c) Find the radius of the semi-circle drawn on each side of the rhombus ABCD.

Case Study 4:

A snowflake is formed when water molecules join together to make a rigid shape. The water molecules combine more molecules, they extend and form a rigid crystalline structure i.e., hexagon shape. Sometimes we can see snowflakes with 12 sides, when two snowflakes grow together. Consider a regular hexagon and answer the following questions:



- i) What is the sum of measure of its exterior angles a, b, c, d, e, f?
- ii) Is $a = b = c = d = e = f$? Why?
- iii) What is the measure of each exterior angle and interior angle?
- iv) Is a rectangle a regular polygon? Why?