

JB Academy, Ayodhya
Half Yearly Examination 2025-26
Class – VIII, Subject : Mathematics

Time: 3hrs

Max Marks: 80.
(1×20= 20)

Section - A

1. The multiplicative inverse of $12/5$ is:
(i) $-12/5$ (ii) $5/12$ (iii) $12/5$ (iv) $-5/12$
2. The additive inverse of $4/15$:
(i) $-4/15$ (ii) $15/4$ (iii) $-15/4$ (iv) $4/15$
3. Identify the property in the following statement $3/7 \times (-4/5 \times 8/9) = (3/7 \times -4/5) \times 8/9$
(i) Associative property (ii) Commutative Property (iii) Distributive property (iv) Identity
4. The linear equation for “ 4 times the number of coins in my pocket plus 5 more is 29. “ is
(i) $4x-5=29$ (ii) $4x +29=5$ (iii) $4x + 5= 29$ (iv) None of these
5. The value of $1/(1+x)=5$ is
(i) $-4/5$ (ii) $4/5$ (iii) $5/4$ (iv) $-5/4$
6. If x is an even number then next even number is
(i) $2(x+1)$ (ii) $2x$ (iii) $x+1$ (iv) $x+2$
7. The sum of measure of exterior angles of any polygon is
(i) 180° (ii) 240° (iii) 360° (iv) 90°
8. In a Quadrilateral the sum of three angles is equal to twice the fourth angle. The measure of the fourth angle is
(i) 60° (ii) 120° (iii) 160° (iv) 240°
9. A die is rolled. What is the probability that the number on top is greater than 2 and odd?
i. $1/2$ ii. $1/3$ iii. $2/3$ iv. $5/6$
10. What is the upper limit of the class interval 160- 170
i. 160. ii. 165. iii. 170. iv. 175
11. Find $98^2 - 97^2$
i. 194 ii. 197 iii. 193 iv. 195
12. The square root of 2704 is
i. 52 ii. 62 iii. 98 iv. 102
13. The sum of first 5 odd natural number is
i. 26 ii. 16 iii. 25 iv. 81
14. The cube root of -8000 is
i. -40 ii. -30 iii. -20 iv. -10

15. Cube root of $216/125$ is

- i. $16/12$ ii. $6/5$ iii. $8/15$ iv. $7/9$

16. Divide $-2/3$ by $-4/3$ and express the answer in its lowest term

- i. -1 ii. $-1/2$ iii. $2/4$ iv. $1/2$

17. One number is twice the other. Together they are 15.

- i. $x + x/2 = 9$ ii. $x + 2x = 15$ iii. $2x - x = 18$ iv. $2x + x = 9$

18. Class size of 26-32 is

- i. 6 ii. 7 iii. 4 iv. 10

19. How many natural numbers are between 21^2 and 20^2

- i. 30 ii. 11 iii. 40 iv. 42

20. What is the unit place digit in the cube root of 10648

- i. 2 ii. 4 iii. 3 iv. 5

Section – B

(2X6= 12)

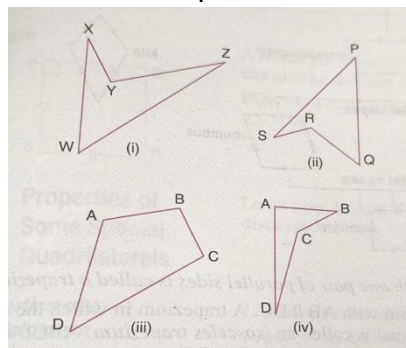
1. Fill the box with $>$, $<$ and $=$

- i. $-2/3$ () $-3/5$ ii. $2/3$ () $-4/6$ iii. $-5/7$ () $-6/13$ iv. $4/5$ () $-7/10$

2. Solve (a) $4x + 3 = 2x - 5$

(b) $x/3 - 2/3 = 5/6$

3. Identify concave and convex quadrilateral in the following:



4. The frequency distribution of weights (in kg) of 35 persons is given in the table:

- (i) What is the lower limit of the class 50-55?
 (ii) What is the class size of the intervals?
 (iii) What is the upper limit of class 55-60?
 (iv) What is the frequency of the class interval 40-45?

Weight (in kg)	Tally marks	Frequency
40-45		5
45-50		7
50-55		11
55-60		7
60-65		5
Total		35

5. Find the least number by which 8712 should be multiplied to make it a perfect square.

6. Find cube root of the following

- i. 1331. ii. 3375

Section – C

(3X6=18)

1. Solve the following using appropriate property

3/7 (7/16- 21/4)

2. How many diagonals are there in

(a) A hexagon?

(b) A thirteen sided polygon?

3. The weight of 30 students in a class (in kg) are as follows:

42,52,46,63,47,40,50,63,52,57,40,47,55, 52,49,42,56,51,48,47,44,54,54,62,60,58, 56,60, 58,53,
Prepare a frequency distribution and draw a histogram, taking suitable class intervals.

4. The area of a square garden is 8464 m^2 . A man takes 3 rounds of this garden. Find the distance covered by him.

5. Find the least number by which 1323 must be multiplied to make it a perfect cube, also find the smallest number by which 3136 must be divided to make it a perfect cube.

6. Solve $2(x-2)/5 - (x-3)/2 = 7/3$

Section – D

(4 marks each)

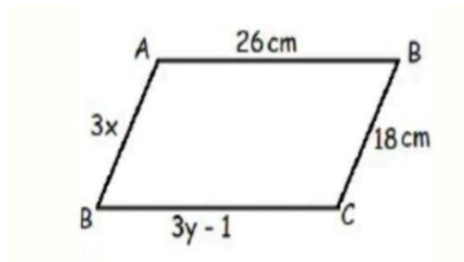
1. (a) The sum of three consecutive numbers is 204. Find the numbers.

(b) Solve : $0.08(3x-1) = 0.4x + 10$

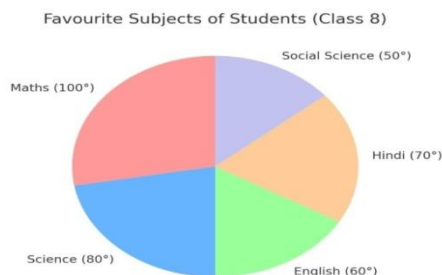
2. (a) In a parallelogram PQRS if angle P = $(3x-5)$ angle Q = $(2x-15)$. Find the measure of all 4 angles in degree.

(b) Find the sum of the interior angles of a polygon of 15 sides.

3. Find the value of x and y in the parallelogram ABCD.



4. Read the pictograph and answer the following questions:



If the strength of the class is 36.

(a) How many students like Science?

(b) Which subject is liked by the maximum number of students?

(c) How many students like English and Hindi together?

5. (a) Find the Pythagorean Triplet if one of the members is 26.
(b) In a school all children were made to stand in a square formation. If there are 3025 students in total how many students will be less for such a formation?
6. A hall is in the form of a cube. If its volume is 13824 m^3 , find the area of the floor of the hall.

Case Study

(2 Marks each)

1. A school auditorium has 2025 chairs. The chairs are to be arranged in such a way that the number of rows is equal to the number of chairs in each row.

Questions:

- (a) Find the number of rows.
(b) If 5 rows are removed, how many chairs will be left?
(c) Are 1600 chairs (remaining) also a perfect square? If yes, how many rows can be formed?

2. Arjun takes a bus every day to school. The bus fare for one day is ₹x. In 5 days, he spends ₹150. His friend Meena pays the same fare and in 10 days, she spends ₹300.

Questions:

- a. Write an equation in using Arjun's condition.
b. Write an equation in using Meena's condition.
c. Solve to find the value of (the one-day bus fare).

3. A classroom library has books in different categories. $\frac{2}{7}$ of the books are story books, $\frac{1}{3}$ are science books, and the rest are general knowledge books. The library has 210 books in total.

Questions:

- (a) What fraction of books are general knowledge books?
(b) How many story books are there?
(c) How many science books are there?