INTERNATIONAL INDIAN SCHOOL, DAMMAM

MIDDLE SECTION

MID TERM WORKSHEET WORK SHEET – 2025-26

CLASS: VIII SUBJECT: MATHEMATICS

CHAPTER -1 : RATIONAL NUMBER (WORKSHEET)

Multiple Choice Questions (MCQ)

1. A rational number can be represented in the form of:
   a) p+q b) q/p c) p − q d) p/q
2. The associative property is applicable to _____ of rational numbers.
   a) Addition and subtraction b) Addition and multiplication
   c) Multiplication and division d) None of these
3. The additive identity of rational numbers is:
   a) 0 b) 1 c) 2 d) −1
4. The multiplicative identity of rational numbers is:
   a) 0 b) 1 c) 2 d) −1
5. Which property of rational numbers is illustrated by the statement:
   5 − (−3) ≠ (−3) − 5
   a) Commutative property for addition b) Associative property of multiplication
   c) Distributive property d) Subtraction is not commutative
6. The product of a number with its multiplicative inverse is:
   a) 0 b) 1 c) 2 d) −1
7. What is the value of 100 divided by 0?
   a) 0 b) 1 c) −1 d) Not defined
8. Division of rational numbers is associative.
   a) True b) False
9. Find the additive identity of 7/11:
   a) 7/11 b) −7/11 c) −11/−7 d) 0
10. Subtraction is closed for
    a) integers and rational numbers b) Natural numbers
    c) whole numbers d) Integers

Assertion & Reasoning

11. Assertion (A)**: The sum of any two rational numbers is a rational number.**
Reason (R)**: Rational numbers are closed under addition.**
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false.
d) A is false but R is true.

12. Assertion: 3/5 + 0 = 3/5
Reason: 1 is the additive identity.
a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false.
d) A is false but R is true.

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13. Simplify using appropriate properties $\frac{2}{5}\ X -\frac{3}{7} - \frac{1}{14} - \frac{3}{7}\ X \frac{3}{5}$

14. Name the property under multiplication used in $-\frac{13}{17}\ X \frac{-2}{7} = \frac{-2}{7}\ X \frac{-13}{17}$

Case Study

15. Vipul's monthly budget is Rs. 15,000. Out of his earnings, he spends:

- 1/10 on food items,
- 1/4 on shopping with family,
- And 1/5 on the education of his two children.

The rest of the money he saves

Based on the above information, answer the following questions:

i) Find the total expenditure, using appropriate property

ii) In which area his expenditure is minimum?

iii) How much money did he save?

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CHAPTER – 2 LINEAR EQUATIONS IN ONE VARIABLE (WORKSHEET)

1. Which of the following is a linear equation in one variable?
(a) x+y+z =15 (b) $7x^2$ - 3x +6 = 68 (c) 2x +35 = 5 (d) $4x^3$ - $11x^2$ + 27 =3(x+2)

2. Solution of 7x +15 = 50 is _____ . (a) x= $\frac{65}{7}$ (b) x = 5 (c) x = $\frac{15}{7}$ (d) x= (-5)

3. If 5z – 7 = 3z – 5 , then z = ……. (a) z = 2 (b) z = 1 (c) z = (-2) (d) z = 5

4. Assertion (A): Solution for the equation 3x – 5 = 7 is 4.
Reason (R): Value of the variable which makes LHS and RHS are equal is called solution.

(a) Both A and R are true and R is the correct explanation of A .
(b) Both Aand R are true but R is not the correct explanation of A .
(c) A is true but R is false .
(d) A is false but R is true.

5 . Assertion (A): The linear equation 5y – 20 = 85 has one solution.
Reason (R): A linear equation in one variable has infinitely many solutions.

(a) Both A and R are true and R is the correct explanation of A .
(b) Both Aand R are true but R is not the correct explanation of A .
(c) A is true but R is false .
(d) A is false but R is true

Solve the following linear equations

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6) $5x - 11 = 3x + 9$ 7) $21y - 8 = 7$ 8) $9 - 2(x - 5) = x + 10$ 9) $\frac{x}{4} - \frac{1}{3} = \frac{1}{4} - \frac{x}{10}$

10) $3x - 5(2x + 7) = 3(4x - 1) + \frac{5}{2}$

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CHAPTER – 3 UNDERSTANDING QUADRILATERALS (WORKSHEET)

1. If one angle of a parallelogram is 65º, then the measure of the adjacent angle is

(a)115º (b) 65º (c)125º (d) 180º

2. What is the measure of each exterior angle of a regular polygon of 15 sides?

(a) 30° (b) 45° (c) 60° (d) 24°

3. Which of the following can never be the measure of exterior angle of a regular polygon?

(a) 22° (b) 36° (c)45° (d) 30°

4.The quadrilateral whose diagonals are perpendicular to each other is:

(a) Parallelogram, (b) Rectangle, (c) Trapezium, (d) Rhombus

5.Which one of the following is a regular quadrilateral?

(a) Square, (b) Trapezium, (c). Kite, (d) Rectangle

6.Assertion (A) – One angle of a parallelogram is a right angle. The name of the quadrilateral is rectangle.

Reason (R) – a rectangle is a quadrilateral with four right angles

a) Both A and R are true and R is the correct explanation of A

b) Both A and R are true but R is not the correct explanation of A

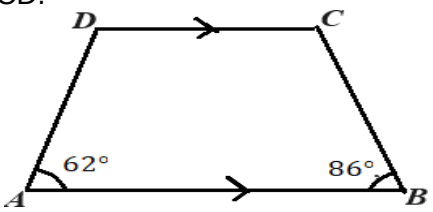
c) A is true but R is false

d) A is false but R is true

7.A regular polygon is having exterior angle 36°. What will be its interior angle?

8. How many sides does a regular polygon has if each interior angle is equal to 150°?

9.If ABCD is a trapezium and AB ∥ CD, ∠DAB = 62° and ∠ABC = 86°, find the measures of ∠ADC and ∠BCD.



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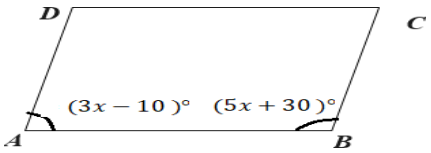
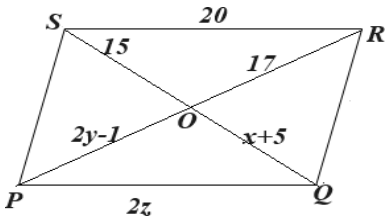
10. In parallelogram ABCD ∠A = (3x − 10)°, ∠B = (5x + 30)°.Find all the angles of the parallelogram.

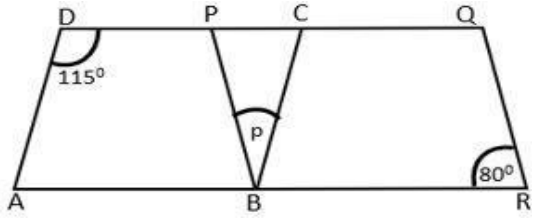


11. Adjacent angles of a parallelogram are in the ratio **2 : 7**. Find the values of all angles

12.In parallelogram PQRS, find the value of x, y and z.

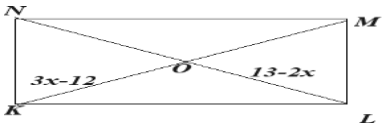


13. The opposite angles of a parallelogram are (3x + 5)° and (61 – x)°. Find the measure of four angles.



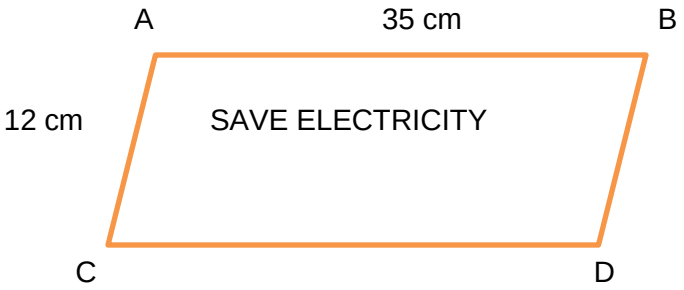
.14. ABCD and PQRB are parallelograms. Find the value of p in the below given figure.

15. KLMN is a rectangle. Find the value of x and find the length of the diagonals.



16.**Case Study**

Aleena makes a poster in the shape of parallelogram on the topic “SAVE ELECTRICITY” for and inter school competition as shown in the figure.



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I) The sum of any two adjacent angles of a parallelogram is equal to

a) 180^0 b) 360^0 c) 720^0 d) 90^0

II) If $\angle A = (2x - 30)^0$ and $\angle c = 50^0$ then what is the value of x

a) 80^0 b) 40^0 c) 180^0 d) 360^0

III) If AB = 35 cm and BC = 12 cm. Find the perimeter of the poster.

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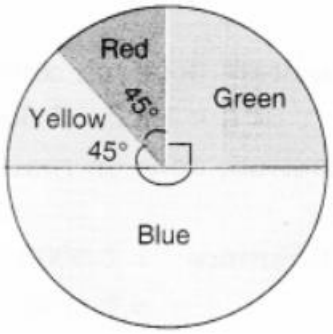
Chapter -4 DATA HANDLING (WORKSHEET)

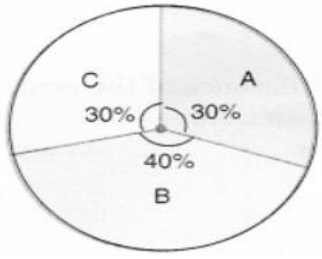
Choose the best answer:

1. A die is thrown. What is the probability of getting an even prime number?
   a) 1/6 (b) ¼ (c) ½ (d) 1/3
2. In the given pie chart which color has more central angle?
   a) Red (b) blue (c) green (d) yellow



3. Which of the following is the probability of an impossible event?
   (a) 0 (b)1 (c) 2 (d) None of these
4. Which of the following is the probability of a sure event?
   (a) 0 (b)1 (c) 2 (d) None of these

5. In the given pie chart, what is the difference between the central angles of sector B and sector C?
   (a) 36° (b) 9° (c) 72° (d) 81°



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Assertion Reason Questions:

6. **Assertion (A) – Weighing of an apple is an example of a random experiment.**
   Reason (R) – A random experiment is that in which outcomes may differ each time when we perform an experiment.
   a) Both A and R are true and R is the correct explanation of A
   b) Both A and R are true but R is not the correct explanation of A
   c) A is true but R is false
   d) A is false but R is true

7. **Assertion (A) – The probability of getting an odd number when a dice is thrown is ½.**
   Reason (R) -Probability of an event= $\frac{Number\ of\ favourable\ outcomes}{Total\ number\ of\ possible\ outcomes}$
   a) Both A and R are true and R is the correct explanation of A
   b) Both A and R are true but R is not the correct explanation of A
   c) A is true but R is false
   d) A is false but R is true

Answer the following questions:

8. Construct a pie chart for the given data:

Method of travel	Walk	Bike	Car	Bus
Frequency	9	3	6	12

9. Numbers 1 to 10 are written on ten separate slips (one number on one slip), kept in a box and mixed well. One slip is chosen from the box without looking into it. What is the probability of:
   (i) getting a number 6?
   (ii) getting a number less than 6?
   (iii)getting a number greater than 6?
   (iv)getting a 1-digit number?

10. A class consists of 21 boys and 9 girls. A student is to be selected for social work. Find the probability that
    (i) a girl is selected
    (ii) a boy is selected
11. What is the probability of a number selected from the numbers 1, 2, 3… 20 such that it is a prime number?
12. A bag contains 3 blue and 2 red balls. A ball is drawn at random. What is the probability of drawing a red ball?

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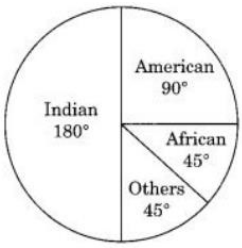
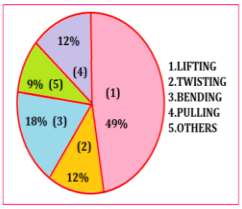
13. The following pie chart depicts the percentage of students, nationwide. What is the percentage of (i) Indian students (ii) African students?



Case study Questions:

14. Given below is a pie chart depicting the reason given by people who had injured their lower back. Study the pie chart and find the number of people who injured their back while bending, lifting, twisting, and pulling and by other reasons. A total of 600 people was taken for survey.



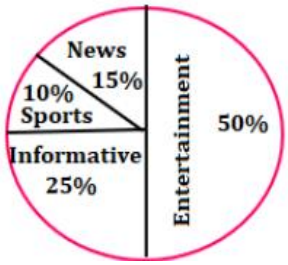
Based on the above information, answer the following questions.

(a) Find the ratio of number of people injured their lower back by bending and pulling?

(b) In this survey, what is the most common cause for back injury?

(c) How many people injured their lower back by other causes?

15. The pie chart depicts the information of viewers watching different type of channels on TV.



Based on given information, answer the following questions.

a) Which type of channels are viewed the most?

i) Entertainment ii) News iii) Sports iv) Informative

b) **What is the central angle of sports sector**?

i)10° ii) 36° iii) 96° iv25°

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INTERNATIONAL INDIAN SCHOOL,DAMMAM
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Class: VIII **WORKSHEET 2025-2026** **Subject: Mathematics**

L-5 SQUARE AND SQUARE ROOTS

I. Choose the Correct Answer

1) The number of digits in the square root of 33856 is ----------

a) 5 b) 4 c) 3 d) 2

2) Which of the following is not a perfect square?

a) 441 b) 324 c) 253 d) 625

3) What could be the possible "one's digit" of the square root of 625?

a) 5 b) 0 c) 4 d) 8

4) In a right angle triangle ABC, right angled at B, AB = 5 cm, BC = 12 cm, then AC = ...

a) 10 b) 12 c) 13 d) 15

5) The smallest 3-digit perfect square is _____.

a) 999 b) 100 c) 125 d) 900

6) The square root of 2.25 is _____.

a) 0.15 b) 1.5 c) 1.25 d) 1.05

7**) Assertion (A) :The unit digit in the square of the number 2644 is 4**
Reasons (R) : Units digit of a number is the digit in the one's place of the number. ie. it is the rightmost digit of the number.

a) Both A and R are true and R is the correct explanation of A
b) Both A and R are true but R is not the correct explanation of A
c) A is true but R is false
d) A is false but R is true

8) **Assertion (A): Non square numbers lie between the pair of 70^2 and 71^2 is 140**
Reasons (R): There are 2n non perfect square numbers between the squares of the numbers n and n+1.

a) Both A and R are true and R is the correct explanation of A
b) Both A and R are true but R is not the correct explanation of A
c) A is true but R is false
d) A is false but R is true

II. Solve the following:

9) Find the square root of the following numbers by prime factorization method.
i) 1296 ii) 784 iii) 2916 iv) 6400

10) Find the square root of the following numbers by division method
i) 2809 ii) 8649 iii) 4761 iv) 6089

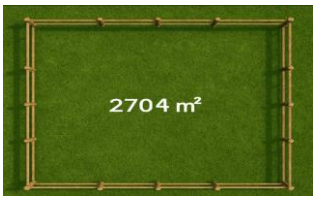
11) Find the smallest square number which is divisible by each of the numbers 8, 9 and 10.

12) Find the square root of the following decimal numbers
i) 6.25 ii) 88.36 iii) 53.29 iv) 30.25

13) Find the least number which must be added to 1308 to get a perfect square. Also find the square root of the obtained number.

III. Case study Questions:

14) Mr. Sharma is planning to build a square-shaped garden in his backyard. He has space for 2704 square meters. He wants to plant grass on the entire garden and put a fence around its boundary.



i) What will be the length of each side of the garden?

ii) How much fencing will be required around the garden?

iii) If each square meter of grass costs ₹12, find the total cost of grass.

iv) If he increases the area to 2916 m², what will be the new side length of the garden?

15) Meenu is arranging chocolates in square boxes for a school carnival. She has 576 milk chocolates, 400 dark chocolates and 225 white chocolates.
Each box must have an equal number of rows and columns.

i) In how many rows can she arrange the milk chocolates?

ii) In how many rows can she arrange the dark chocolates?

iii) What is the total number of rows used after arranging all the chocolates?

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CLASS: VIII **SUBJECT: MATHS**

Chapter- 6 Cube and Cube Roots

1) Multiple choice questions:

i. A perfect cube of a number having 0 at its unit place, ends with _____ zeros.
a)1 b)2 c)3 d)4

ii. By what number should we divide 135 to get a perfect cube?
a) 3 b)5 c)7 d)9

iii. The prime factorisation of 64 is:
a)2 x 2 x 2 b) 4 x 4 x 4 c) 8 x 8 x 8 d) None of the above

iv. Cube root of 512 is:
a) 4 b)6 c)8 d)12

v. The value of 4 X $\sqrt[3]{1000}$ is:
a). 400 b) 40 c) 10 d)4

vi. The one's digit of the cube of 243 is:
a) 9 b) 7 c) 1 d) None of these.

vii. Which of the following is a perfect cube?
a) 576 b) 900 c) 1331 d) 1600

viii. The cube root of 1000 is:
a) 10 b) 100 c) 20 d) 50

ix. Find the value of $\sqrt[3]{8} + \sqrt[3]{27} + \sqrt[3]{64}$.
a) 10 b) 9 c) 12 d) 15

x. The cube of an odd natural number is:
a) even b) odd c) may be even, may be odd d) prime number.

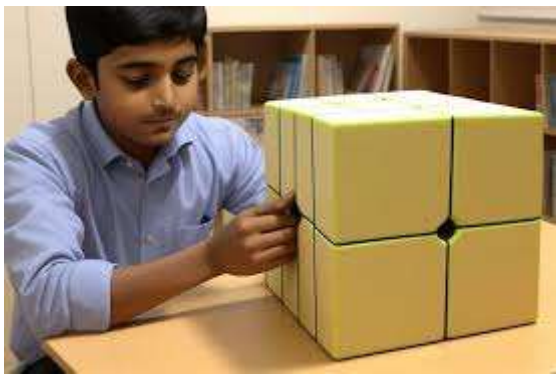
xi. **Assertion (A)**: The one's digit in the cube root of the cube number 1728 is 6.
Reason (R): The cube root of a number is the factor that we multiply by itself three times to get that number

(a) Both A and R are true and R is the correct explanation of A
(b) Both A and R are true but R is not the correct explanation of A
(c) A is true but R is false
(d) A is false but R is true.

2)Using prime factorization find which of the following are perfect cubes:
a) 125 b) 256 c) 1764 d) 1331 e) 17576

3) If one side of a cube is 15m in length, find its volume?

4) Is 648 a perfect cube? If not find the smallest natural number by which 648 must be multiplied to get a perfect cube.
5) Is 5324 a perfect cube? If not find the smallest natural number by which 5324 must be divided to get a perfect cube.
6) Find the smallest number by which each of the following must be multiplied to obtain a perfect cube?
   a) 3456 b) 1600 c) 162 d) 192
7) Areeba has a cuboid of sides 10cm, 3cm and 10cm. How many such cuboids will be needed to form a cube?
8) Find the length of each side a cube. If its volume is 512 cm^3?
9) Evaluate a) $\sqrt[3]{2744}$ b) $\sqrt[3]{2197}$ c) $\sqrt[3]{64} + \sqrt[3]{27} + \sqrt[3]{1000}$.
10) **(Case Study Based Question)**
Mohan has to prepare a physics project in form of a cubical box for a social work campaign but he had a cuboidal box of sides 4 cm, 2 cm, 4 cm. Now he has to change it in the form of cube so that he can complete his project. For this, he needed more cuboids so that he can make his project in form of cube.



(a) What is the volume of the cuboidal box? [1]
(b) Find value of $(4)^3$. [1]
(c) How many cuboids are more needed? [2]

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