ORANGE

ASSIGNMENT–1

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

Multiple Choice Type Questions
Identify the correct answer.

1. The additive inverse of $\frac{11}{29}$ is

(*a*) a whole number (*b*) an integer (*c*) a rational number (*d*) a natural number

2. The reciprocal of $\left(-4\frac{3}{5}\times 1\frac{7}{23}\right)$ is

(*a*) –6 (*b*) $-\frac{1}{6}$ (*c*) $\frac{1}{6}$ (*d*) 6

3. The product of $\frac{7}{13}$ and the reciprocal of $\frac{-7}{16}$ is

(*a*) $\frac{-16}{13}$ (*b*) $\frac{16}{13}$ (*c*) $\frac{3}{16}$ (*d*) $\frac{-13}{16}$

4. The rational number between $\frac{2}{3}$ and $\frac{1}{2}$ is

(*a*) $\frac{-7}{12}$ (*b*) $\frac{7}{12}$ (*c*) $\frac{5}{3}$ (*d*) $\frac{7}{6}$

5. In the following, a rational number greater than –3 is

(*a*) –3 (*b*) –4 (*c*) –5 (*d*) $\frac{-1}{2}$

6. Simplified form of $\frac{-4}{5}\times\frac{3}{7}\times\frac{15}{16}\times\left(\frac{-14}{9}\right)$ is

(*a*) 1 (*b*) 0 (*c*) 2 (*d*) $\frac{1}{2}$

7. The sum of the rational numbers $\frac{-5}{16}$ and $\frac{7}{12}$ is

(*a*) $\frac{-7}{48}$ (*b*) $\frac{-11}{30}$ (*c*) $\frac{13}{48}$ (*d*) $\frac{1}{3}$

8. What number should be added to $\frac{7}{12}$ to get $\frac{4}{15}$?

(*a*) $-\frac{19}{60}$ (*b*) $-\frac{11}{30}$ (*c*) $\frac{51}{60}$ (*d*) $\frac{1}{20}$

9. What number should be subtracted from $-\frac{3}{5}$ to get –2?

(*a*) $-\frac{7}{5}$ (*b*) $-\frac{13}{5}$ (*c*) $\frac{13}{5}$ (*d*) $\frac{7}{5}$

10. Which of the rational numbers $\frac{-11}{28}, \frac{-5}{7}, \frac{9}{-14}, \frac{29}{-42}$ is the greatest?

(*a*) $\frac{-11}{28}$ (*b*) $\frac{-5}{7}$ (*c*) $\frac{9}{-14}$ (*d*) $\frac{29}{-42}$

ORANGE

ASSIGNMENT–2

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Fill in the blanks.

1. The numbers ..... and ..... are their own reciprocals.
2. The product of two rational numbers is always a/an ..... number.
3. The rational numbers are ..... under addition, subtraction and multiplication.
4. Commutative property of ..... and ..... does not hold for rational numbers.
5. On subtracting $\frac{1}{2}$ from a rational number and multiplying the difference by $\frac{1}{2}$, it gives $\frac{1}{8}$. Then the number is ..... .

B. Label True or False.

1. The difference between multiplicative and additive identities for rational numbers is 1. .....
2. There exist only three rational numbers between –2 and 2. .....
3. The numbers $\frac{4}{-9}, \frac{-5}{12}, \frac{7}{-18}, \frac{-2}{3}$ are arranged in ascending order. .....
4. –1 and 1 are a pair of rational numbers whose product and quotient are the same. .....
5. If $\frac{1}{4}$ is added to the sum of $\left(\frac{1}{2}+\frac{1}{7}+\frac{1}{14}+\frac{1}{28}\right)$, then it equals to 1. .....

C. Match the following.

Column A	Column B
1. The product of a positive number and its reciprocal	(*a*) 0
2. The rational number which does not have its reciprocal	(*b*) Negative rational numbers
3. The reciprocal of the reciprocal of a number	(*c*) Infinite
4. The total number of rational numbers between any two rational numbers	(*d*) Number itself
5. Set of rational numbers lying on the left side of zero on a number line	(*e*) 1

D. Do as directed.

1. Rajesh earns ₹32000/month. He spends $\frac{1}{4}$ of his income on food; $\frac{3}{10}$ of the remainder on house rent and $\frac{5}{21}$ of the remainder on education of children.
   (*a*) How much money is still left with him?
   (*b*) On which segment Rajesh does spend the maximum money?
2. Three consecutive integers are such that when they are taken in increasing order and multiplied by 2, 3, and 4 respectively, they add up to 74. Find these numbers.

ORANGE

ASSIGNMENT–3

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Multiple Choice Type Questions

Identify the correct answer.

1. 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*) $5x + 8 = x - 4$

2. The value of x for which the expressions $3x - 4$ and $2x + 1$ become equal is

(*a*) -3 (*b*) 0 (*c*) 5 (*d*) 1

3. The sum of three consecutive multiples of 7 is 357. Which is the greatest multiple?

(*a*) 112 (*b*) 126 (*c*) 119 (*d*) 116

4. Two numbers are in the ratio 3 : 5. If their sum is 64, then the difference of numbers is

(*a*) 24 (*b*) 15 (*c*) 20 (*d*) 16

5. The sum of the ages of three persons is 100 years. What would be the sum of their ages 5 years ago?

(*a*) 95 years (*b*) 115 years (*c*) 90 years (*d*) 85 years

6. If $2x + 1 = 15$, then the value of $x - 7$ is

(*a*) 0 (*b*) -7 (*c*) 7 (*d*) 3

7. For what value of x, $\frac{x}{4} + \frac{x}{6} = x - 7$?

(*a*) 12 (*b*) -12 (*c*) 3 (*d*) none of these

8. The solution of the equation $\frac{3x+5}{2x+1} = \frac{1}{3}$ is

(*a*) 2 (*b*) -2 (*c*) 3 (*d*) none of these

9. The solution of the equation $\frac{x+6}{4} + \frac{x-3}{5} = \frac{5x-4}{8}$ is

(*a*) 8 (*b*) -8 (*c*) 4 (*d*) none of these

10. Basuki has 3 times as many two-rupee coins as he has five-rupee coins. If he has in all ₹77, then the numbers of two-rupee coins and five-rupee coins are ..... and ..... respectively.

(*a*) 10, 30 (*b*) 21, 7 (*c*) 6, 18 (*d*) 15, 5

B. Assertion and Reason Type Questions

In the following question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option.

(*a*) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

(*b*) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

(*c*) Assertion (A) is true but Reason (R) is false.

(*d*) Assertion (A) is false but Reason (R) is true.

11. **Assertion:** 1 is the solution of the equation $3x - 4 = 1 - 2x$.

Reason: Any value of the variable that makes both sides of an equation equal is known as a solution of the equation.

ORANGE

ASSIGNMENT–4

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Fill in the blanks.

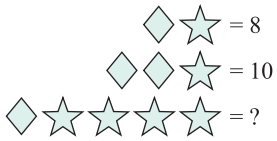
1. The share of A when ₹25 is divided between A and B so that A gets ₹8 more than B is ..... .
2. A term of an equation can be transposed to the other side by changing its ..... .
3. If $\frac{2}{5}x - 2 = 5 - \frac{3}{5}x$, then x = ...
4. After 18 years, Swarnim will be 4 times as old as he is now. After 4 years, he will be ..... old.
5. The denominator of a rational number is greater than the numerator by 10. If the numerator increases by 1 and the denominator decreases by 1, then the number becomes $\frac{1}{2}$. The equation representing the statement is ..... .

B. Label True or False.

1. 3 years ago, a boy was y years old. His age two years ago was $(y - 2)$ years. .....
2. The number of boys and girls in a class is in the ratio 5 : 4. If the number of boys is 9 more than the number of girls, the number of students in the class is 81. .....
3. Two different equations can never have the same answer. .....
4. If $\frac{x}{3} + 1 = \frac{7}{15}$, then $\frac{x}{3} = \frac{6}{15}$. .....
5. If x is an even number, then the next even number is $2(x + 1)$. .....
6. Two numbers differ by 40, when each number is increased by 8, the bigger becomes thrice the lesser number. If one number is x, then the other number is $(40 - x)$. .....

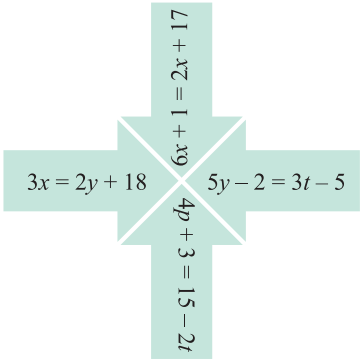
C. Solve the Puzzle.

Determine the missing value in the puzzle below:



D. Do as directed.

1. Solve the equations and find the values of x, y, t and p in order.



2. Find the value of $p - t + x - y$ using the values obtained in Q1.

ORANGE

ASSIGNMENT–5

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Multiple Choice Type Questions

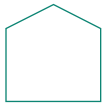
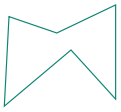
Identify the correct answer.

1. Which of the following is true for the adjacent angles of a parallelogram?

(*a*) they are equal to each other (*b*) they are complementary angles

(*c*) they are supplementary angles (*d*) none of these

2. Which of the following is a convex polygon?

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

3. Which of the following is a formula to find the sum of interior angles of a polygon having n sides?

(*a*) $\frac{n}{2}\times 180°$ (*b*) $\left(\frac{n+1}{2}\right)\times 180°$ (*c*) $\left(\frac{n-1}{2}\right)\times 180°$ (*d*) $(n-2)\times 180°$

4. Diagonals of a ..... do not bisect it into two congruent triangles.

(*a*) rhombus (*b*) trapezium (*c*) square (*d*) rectangle.

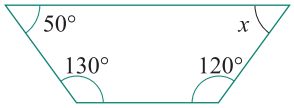
5. What is the minimum measure of an interior angle possible in a regular polygon?

(*a*) 40° (*b*) 80° (*c*) 60° (*d*) 36°

6. What is the name of a regular polygon of 4 sides?

(*a*) Equilateral triangle (*b*) square (*c*) rectangle (*d*) kite

7. What is the value of x in the adjoining figure?



(*a*) 120° (*b*) 80°

(*c*) 60° (*d*) 100°

8. The sides of a pentagon are produced in order. Which of the following is the sum of its exterior angles?

(*a*) 540° (*b*) 180° (*c*) 720° (*d*) 360°

9. If two adjacent angles of a parallelogram are $(5x-5)°$ and $(10x+35)°$, then the ratio of these angles is

(*a*) 1 : 3 (*b*) 2 : 3 (*c*) 1 : 4 (*d*) 1 : 2

10. To construct a unique parallelogram, the minimum number of measurements required is

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

B. Assertion and Reason Type Questions

In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option.

(*a*) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

(*b*) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

(*c*) Assertion (A) is true but Reason (R) is false.

(*d*) Assertion (A) is false but Reason (R) is true.

11. **Assertion:** The maximum measure of an exterior angle possible in a regular polygon is 120°.

Reason: Each exterior angle of an n-sided regular polygon is $360°/n$.

ORANGE

ASSIGNMENT–6

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Fill in the blanks.

1. There are ..... diagonals in a regular hexagon.
2. A quadrilateral whose opposite sides and all the angles are equal is a ..... .
3. The angles of a quadrilateral are in the ratio 1 : 2 : 3 : 4. The type of the quadrilateral is ..... .
4. If PQRS is a parallelogram, then $\angle P - \angle R$ is equal to ..... .
5. The length of one of the diagonals of a rectangle whose sides are 10 cm and 24 cm is ..... .

B. Label True or False.

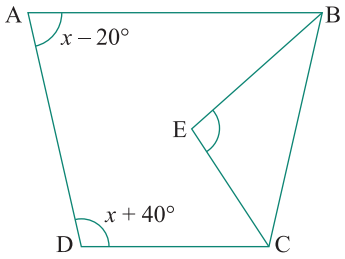
1. All kites are squares. .....
2. Adjacent angles of a parallelogram are supplementary. .....
3. All rectangles are parallelograms. .....
4. A polygon is regular if all of its sides are equal. .....
5. If the diagonals of a quadrilateral are equal, it must be a rectangle. .....

C. Match the following.

Column A	Column B
1. The sum of exterior angles is double the sum of its interior angles.	(*a*) Quadrilateral
2. The sum of interior angles is double the sum of its exterior angles.	(*b*) Triangle
3. The sum of interior angles is the same as the sum of its exterior angles.	(*c*) Pentagon
4. The number of diagonals of this polygon is the same as the number of sides.	(*d*) Heptagon
5. The number of diagonals of this polygon is double the number of sides.	(*e*) Hexagon

D. Do as directed.

1. The diagonals of a rhombus ABCD intersect at O. If $\angle ADC = 120°$ and OD = 6 cm, find (*i*) $\angle OAD$, (*ii*) side AB and (*iii*) perimeter of the rhombus ABCD.
2. In the given figure, ABCD is a trapezium. (*i*) Find the value of *x*. (*ii*) If EB and EC are bisectors of $\angle B$ and $\angle C$ respectively, find $\angle BEC$.



ORANGE

ASSIGNMENT–7

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Multiple Choice Type Questions

Identify the correct answer.

1. The range of the data: 6, 14, –20, 16, 6, –5, 4, 0, 25, –15, and 5 is

(*a*) 34 (*b*) 21 (*c*) 45 (*d*) 3

2. The class mark of the class 20-30 is

(*a*) 20 (*b*) 25 (*c*) 30 (*d*) 15

3. The following data: 2, 5, 15, 25, 20, 12, 8, 7, 6, 16, 21, 17, 30, 32, 23, 40, 51, 15, 2, 9, 57, 19, 25 is grouped in the classes 0-5, 5-10, 10-15 etc. Find the frequency of the class 20-25.

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

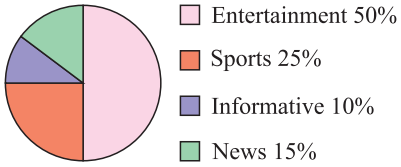
4. In the interval 35-45, 45 is called

(*a*) Upper limit (*b*) Lower limit (*c*) Range (*d*) Frequency

5. The central angle of the sectors in a pie chart will be a fraction of the angle

(*a*) 360° (*b*) 180° (*c*) 100° (*d*) 270°

6. The pie chart depicts the information of viewers watching different type of channels on TV. Which type of programmes are viewed the least?



(*a*) News (*b*) Sports

(*c*) Informative (*d*) Entertainment

7. A dice is thrown two times and the sum of the numbers appearing on the dice is noted. The number of possible outcomes is

(*a*) 6 (*b*) 11 (*c*) 18 (*d*) 36

8. In a bag, there are 4 red balls and 6 green balls. A ball is picked up at random, what is the probability of getting a red ball?

(*a*) 0.6 (*b*) 1 (*c*) 0.5 (*d*) 0.4

9. What does the height of a rectangle show in a histogram?

(*a*) Upper limit (*b*) Lower limit (*c*) Frequency (*d*) Range

10. A coin is tossed. Which of the following is the probability of getting a heads or tails?

(*a*) 0 (*b*) 1 (*c*) 0.5 (*d*) 0.25

B. Assertion and Reason Type Questions

In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option.

(*a*) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

(*b*) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

(*c*) Assertion (A) is true but Reason (R) is false.

(*d*) Assertion (A) is false but Reason (R) is true.

11. **Assertion:** If a coin is tossed twice, the probability of getting at least one heads is $\frac{1}{2}$.

Reason: When two coins are tossed simultaneously, the number of outcomes is 4.

ORANGE

ASSIGNMENT–8

Marks Obtained: _____

Student's Name: _____ Section: _____

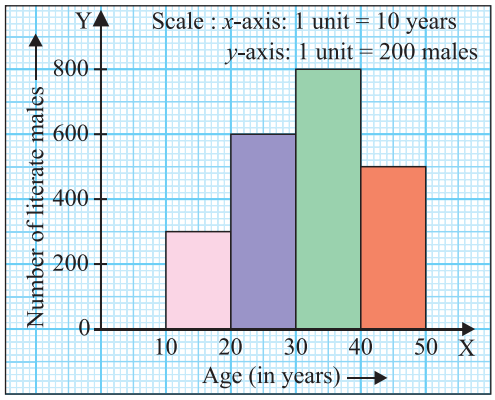
Roll Number: _____ Date: _____

A. Fill in the blanks.

1. The number of times a particular observation occurs in a given data is called its ..... .
2. When the data are large, they can be arranged in groups and each group is known as ..... .
3. The information collected in term of numbers or figures is called ..... .
4. The difference between the lowest and the highest ..... in a given data is called its range.
5. A pie chart is used to compare ..... to a whole.
6. An experiment whose outcomes cannot be predicted exactly in advance is called a ..... experiment.

B. Label True or False.

1. Sum of all the central angles in a pie chart is 180°. .....
2. If the fifth class interval is 60-65, fourth class interval is 55-60, then the first class interval is 45-50. .....
3. From the histogram given on the right, we can say that 1500 males above the age of 20 are literate. .....
4. In a throw of a dice, the probability of getting an even number is the same as that of getting an odd number. .....
5. If a letter is selected from the word EDUCATION, then the probability of getting a vowel is more likely than a consonant. .....



C. Using the following frequency table, match the columns A and B:

Marks (obtained out of 10)	4	5	7	8	9	10
Frequency	5	10	8	6	12	9

Column A	Column B
1. Number of students who got full marks.	(*a*) 23
2. Number of students who got less than 8 marks	(*b*) 9
3. Number of students who got more than 8 marks	(*c*) 5
4. Number of students who got the lowest marks	(*d*) 35
5. Number of students who got more than 50% marks	(*e*) 21

D. Do as directed.

The weekly wages (in ₹) of 30 workers in a factory are 830, 835, 890, 810, 835, 836, 869, 845, 898, 890, 820, 860, 832, 833, 855, 845, 804, 808, 812, 840, 885, 835, 835, 836, 878, 840, 868, 890, 806, 840.

1. Using tally marks, make a frequency distribution table with class intervals 800-810, 810-820, and so on.
2. Draw a histogram for the frequency table made in Q 1.

ORANGE

ASSIGNMENT–9

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

Multiple Choice Type Questions

Identify the correct answer.

1. Which among the following numbers are not perfect squares?

(*a*) 2209 (*b*) 1068 (*c*) 5625 (*d*) 8100

2. The square of a number which would end with digit 1 is

(*a*) 77 (*b*) 82 (*c*) 109 (*d*) 123

3. Number of non-perfect square numbers between n^2 and $(n + 1)^2$ is

(*a*) n (*b*) $n + 1$ (*c*) $2n$ (*d*) $2n + 1$

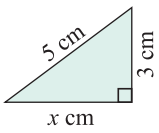
4. The sum of two consecutive integers 84 and 85 is same as the square of

(*a*) 21 (*b*) 13 (*c*) 11 (*d*) 19

5. A Pythagorean triplet whose smallest member is 8 is

(*a*) 6, 8, 10 (*b*) 8, 15, 17 (*c*) 8, 12, 13 (*d*) 8, 35, 37

6. The value of x given in the figure is



(*a*) 4 (*b*) 6 (*c*) 9 (*d*) 12

7. The smallest square number which is divisible by each of the numbers 6, 9 and 15 is

(*a*) 90 (*b*) 225 (*c*) 729 (*d*) 900

8. The number of digits in the square root of a 5- or 6-digit perfect square is

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

9. The greatest 4-digit number which is a perfect square is

(*a*) 9999 (*b*) 9980 (*c*) 9600 (*d*) 9801

10. The square root of 12.25 is

(*a*) 0.35 (*b*) 3.5 (*c*) 3.05 (*d*) 3.35

11. The length of the side of a square whose area is 441 m^2 is

(*a*) 19 m (*b*) 21 m (*c*) 37 m (*d*) 41 m

12. 1000 students in an assembly are to be arranged in such a way that the number of rows and the number of columns remain same. The minimum number of students needed more for this is

(*a*) 10 (*b*) 12 (*c*) 24 (*d*) 64

13. Which among the following statements is false?

(*a*) The square of a number having 1 or 9 at the units place ends in 1.

(*b*) The square of a number having 2 or 8 at the units place ends in 4.

(*c*) The square of a number having 3 or 7 at the units place ends in 9.

(*d*) The square of a number having 0 or 5 at the units place ends in 5.

ORANGE

ASSIGNMENT–10

Marks Obtained: _____

Student's Name: _____ Section: _____

Roll Number: _____ Date: _____

A. Fill in the blanks.

1. Three natural numbers a, b, c are said to form a Pythagorean triplet if ..... .
2. There are ..... natural numbers between the squares of numbers n and $n + 1$.
3. There are ..... perfect squares between 1 and 100.
4. The least number by which 125 be multiplied to make it a perfect square is ..... .
5. Given that $\sqrt{2025} = 45$, the value of $\sqrt{2025} + \sqrt{20.25}$ is ..... .

B. Label True or False.

1. For every natural number $m > 1$, $2m$, $m^2 - 1$ and $m^2 + 1$ form a pythagorean triplet. .....
2. A number having 7 at its ones place will have 1 at the units place of its square. .....
3. The sides of a right triangle whose hypotenuse is 17 cm are 8 cm and 15 cm respectively. .....
4. The square root of a perfect square of n digits will have $\left(\frac{n+1}{2}\right)$ digits if n is odd. .....
5. The sum of successive odd numbers 1, 3, 5, 7, 9, 11, 13 and 15 is 8^2. .....

C. Match the following.

Column A	Column B
1. 196 is the square of	(*a*) 4
2. Number of natural numbers between 5^2 and 6^2	(*b*) 10000
3. Sum of first 10 odd natural numbers	(*c*) 14
4. Number of zeros in the square of 500	(*d*) 10
5. 1 m^2 equal to ..... cm^2	(*e*) 100

D. Do as directed.

1. Can you tell the error in the statement.
   "The square roots of a certain number are 1.2 and –1.2, the number must be their product, –1.44."
2. The perimeters of two squares are 60 metres and 80 metres respectively. Find the perimeter of another square whose area is equal to the sum areas of the first two squares.
3. Find the smallest square number divisible by each one of the numbers 10, 12 and 15.