

SATISH CHANDRA MEMORIAL SCHOOL

MATHEMATICS

VIII – MID TERM

WORKSHEET (Assertion Reasoning)

1. **Assertion (A)** – Rational numbers are not closed under addition
Reason (R) – A rational number is a number that is in the form of p/q , where p and q are integers, and q is not equal to 0.
 - 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. **Assertion (A)** – Natural numbers are commutative for multiplication
Reason (R) – Rational numbers are commutative under addition and multiplication
 - 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
3. **Assertion (A)** – Whole numbers are not closed under division
Reason (R) – A rational number is a number that is in the form of p/q , where p and q are integers, and q is not equal to 0.
 - 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
4. **Assertion (A)** – $a \times (b \times c) = (a \times b) \times c$ is called associative law for multiplication
Reason (R) – The associative laws state that when you add or multiply any three real numbers, the grouping (or association) of the numbers does not affect the result.
 - 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
5. **Assertion (A)** – The degree of the equation $x^2 - 2x + 1 = x^2 - 3$ is 2
Reason (R) – Standard form for linear equation in one variable is $a(x) + b = 0$. where x is variable and a, b are arbitrary constants
 - 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
6. **Assertion (A)** – The root of the equation $3x = 20/7 - x$ is $5/7$
Reason (R) – The value of the variable which makes left hand side equal to right hand side in the given equation is called the solution or the root of the equation

- 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)** – x is an odd number. The largest odd number preceding x is $x-2$.
Reason (R) – Numbers which follow each other in order, without gaps, from smallest to largest. 12, 13, 14 and 15 are consecutive numbers
- 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)** – Triangle have 1 diagonal.
Reason (R) – A triangle is a polygon with three edges and three vertices. It is one of the basic shapes in geometry
- 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
9. **Assertion (A)** – The angle sum of a convex polygon with number of sides n is $(n - 2) 180^\circ$
Reason (R) – A convex polygon is a polygon that is the boundary of a convex set.
- 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
10. **Assertion (A)** – The measures of two angles of a quadrilateral are 110° and 100° . The remaining two angles are equal. The measure of each of the remaining two angles is 45° .
Reason (R) – Quadrilaterals are composed of two triangles. Seeing as we know the sum of the interior angles of a triangle is 180° , it follows that the sum of the interior angles of a quadrilateral is 360° .
- 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
11. **Assertion (A)** – All the squares are rhombuses
Reason (R) – All the parallelograms are rhombuses
- 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 (A)** – 7828 is a perfect square number.
Reasons (R) – A perfect square is a number that can be expressed as the product of an integer by itself or as the second exponent of an integer.

- 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

13. **Assertion (A)** –The unit digit number 132 is in the square of the 4.

Reasons (R) –Unit's digit of a number is the digit in the one's place of the number. i.e. 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

14. **Assertion (A)** –The unit digit in the square of the number 78 is 4

Reasons (R) –Unit's digit of a number is the digit in the one's place of the number. i.e. 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

15. **Assertion (A)** –99 is not a perfect cube

Reasons (R) –The perfect cube is the result of multiplying the same integer three times.

- 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

16. **Assertion (A)** –The cube of an odd natural number is odd

Reasons (R) –A cube number is a number multiplied by itself 3 times

- 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

17. **Assertion (A)** –the one's digit in the cube root of the cube number 1728 is 6

Reasons (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

18. **Assertion (A)** –The number of zeroes at the end of the cube root of the cube number 8000000 is 3

Reasons (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