

ASSERTION-REASON PRACTICE QUESTIONS

Class 7 Mathematics — Chapter 2: Arithmetic Expressions

DIRECTIONS:

In each of the following questions, two statements are given—one labeled **Assertion (A)** and the other labeled **Reason (R)**. Select the correct answer from the options given below:

- (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.

Question 1

Assertion (A): The arithmetic expressions $15 - 3$ and $24 \div 2$ are equivalent expressions.

Reason (R): Different arithmetic expressions can evaluate to the exact same numerical value.

Question 2

Assertion (A): The terms of the arithmetic expression $83 - 14$ are 83 and -14 .

Reason (R): Terms are the parts of an expression separated by a '+' sign, and subtracting a number is the same as adding its additive inverse.

Question 3

Assertion (A): The value of the expression $30 + 5 \times 4$ is 140 .

Reason (R): When brackets are absent in an expression with multiple operations, multiplication must be performed before addition.

Question 4

Assertion (A): The expression $1023 + 125$ is strictly less than ($<$) $1022 + 128$.

Reason (R): If one expression starts with a baseline that is 1 less but adds an amount that is 3 more, its final value will be greater by 2 .

Question 5

Assertion (A): The value of $7 \times (10 + 2)$ is the same as the value of $7 \times 10 + 7 \times 2$.

Reason (R): According to the distributive property, the multiple of a sum is equal to the sum of the multiples.

Question 6

Assertion (A): The value of the expression $480 \div (12 \div 4)$ is exactly the same as the value of the expression $(480 \div 12) \div 4$.

Reason (R): Division does not follow the associative property, meaning the grouping of numbers matters.

Question 7

Assertion (A): Without computing, we can conclude that the expression $999 \times 999 + 999$ is equal to 1000×999 .

Reason (R): By applying the distributive property of multiplication over addition, $a \times b + a$ can be rewritten as $a \times (b + 1)$.

Question 8

Assertion (A): The arithmetic expression $50 - [20 - (10 - 5)]$ evaluates to a total value of 35.

Reason (R): When simplifying nested brackets, we always work from the outermost bracket (square brackets) to the innermost bracket (parentheses).

Question 9

Assertion (A): The expressions $25 + 0 \times 4$ and 25 are equivalent, and both have exactly the same two terms: 25 and 0.

Reason (R): Multiplying any number by zero results in zero, and adding zero to a number does not change its value.

Question 10

Assertion (A): The value of the expression $100 \div 5 \times 2$ is 10.

Reason (R): According to the order of operations, when division and multiplication appear together without brackets, they have equal rank and must be solved strictly from left to right.