

# Chapter 5 Class 10 - Arithmetic Progressions - Assertion and Reasoning Worksheet 2 by *teachoo*

Chapter: [Chapter 5 Class 10 Maths - Arithmetic Progressions](#)

Name: \_\_\_\_\_

School: \_\_\_\_\_

Roll Number: \_\_\_\_\_

## Instructions:

For each question, two statements are given: Assertion (A) and Reason (R). Choose the correct option.

- (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.

1. Assertion (A): A circle is divided into 10 sectors whose angles are in AP. If the smallest angle is  $8^\circ$ , the largest angle is  $64^\circ$ .

Reason (R): The sum of all angles at the center of a circle is  $360^\circ$ .

2. Assertion (A): It is not possible to design a flower bed with rows of roses where the first row has 30 roses, the second has 27, the third has 24, and so on, if the total number of roses to be planted is 170.

Reason (R): The equation for 'n' (number of rows) for  $S_n = 170$  in this case has no real roots.

3. Assertion (A): Two APs, 2,5,8, ... and 60,61,62, ..., will have a common term.

Reason (R): Two APs will always have a common term if their common differences are different.

4. Assertion (A): The sum of the first 20 terms is equal to the sum of the first 30 terms for an AP whose first term is 25 and common difference is -2.

Reason (R): The sum of terms from the 21st to the 30th is zero.

5. Assertion (A): The amount of air removed from a cylinder by a vacuum pump that removes  $\frac{1}{4}$  of the remaining air each time forms an AP.

Reason (R): The amount of air removed is a constant fraction of the remaining air, not a constant value.

## Important links

- Answer of this worksheet -<https://www.teachoo.com/25625/5378/Assertion-Reasoning---Worksheet-2/category/Teachoo-Questions---Assertion-Reasoning/>
- Full Chapter with Explanation, Activity, Worksheets and more – <https://www.teachoo.com/subjects/cbse-maths/class-10th/ch5-10th-arithmetic-progressions/>
- Science Class 10– <https://www.teachoo.com/subjects/science/class-10/>
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