

Chapter 6 Class 12 - Application of Derivatives - Assertion and Reasoning Worksheet 2 by *teachoo*

Chapter: [Chapter 6 Class 12 - Application of Derivatives](#)

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): The function $f(x) = x + \frac{1}{x}$ has a local minimum at $x = 1$.

Reason (R): $f'(1) = 0$ and $f''(1) > 0$.

2. Assertion (A): The absolute maximum of $f(x) = x^2$ on the interval $[-2, 2]$ is 4 .

Reason (R): The absolute maximum of a function on a closed interval must occur at a critical point or an endpoint.

3. Assertion (A): The rate of change of the area of a circle with respect to its radius is its circumference.

Reason (R): The derivative of $A = \pi r^2$ with respect to r is $2\pi r$.

4. Assertion (A): The function $f(x) = \log (\sin x)$ is strictly decreasing on $(\pi/2, \pi)$.

Reason (R): The derivative $f'(x) = \cot (x)$ is negative on the interval $(\pi/2, \pi)$.

5. Assertion (A): A point c where $f'(c) = 0$ must be a point of local extremum.

Reason (R): The tangent to the curve at $x = c$ is horizontal.

Important links

- Answer of this worksheet - <https://www.teachoo.com/25585/5358/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-12th/ch6-12th-application-of-derivatives/>
- Maths Class 12 - <https://www.teachoo.com/subjects/cbse-maths/class-12th/>

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