



MATHS

BOOKS - S CHAND MATHS (ENGLISH)

MATHEMATICAL INDUCTION

Illustrative Solved Examples

1. Use the principle of mathematical induction to prove that following statement for all

$n \in \mathbb{N}$.

$$x + 4x + 7x + \dots + (3n - 2)x = \frac{1}{2}n(3n - 1)x$$



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2. Apply the method of induction to prove that no natural number is equal to its successor.



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Exercise A

1. Let

$$S(k) = 1 + 3 + 5 + \dots + (2k - 1) = 3 + k^2$$

, then which of the following is true?

A. $S(k) = S(k + 1)$

B. $S(k) \neq S(k + 1)$

C. $S(1)$ is correct

D. Principle of mathematical induction can

be used to prove the formula

Answer: A





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