27 Lecture - MTH101

Important Mcqs

What is the symbol used to represent a sum in sigma notation?
A) ?
B)?
C) ?
D) ?
Solution: B) ?
What is the purpose of using sigma notation?
A) To represent long sums of numbers in a more compact and convenient way
B) To represent long products of numbers in a more compact and convenient way
C) To represent long division of numbers in a more compact and convenient way
D) To represent long subtraction of numbers in a more compact and convenient way
Solution: A) To represent long sums of numbers in a more compact and convenient way
How is an arithmetic sequence represented in sigma notation?
A) ?i=1n ar^i
B) $?i=1n (a + (i-1)d)$
C) ?i=0n ar^i
D) $?i=0n (a + (i-1)d)$

How is a geometric sequence represented in sigma notation?

A) ?i=1n ar^i

B)
$$?i=1n(a+(i-1)d)$$

Solution: B) ?i=1n(a+(i-1)d)

D)
$$?i=0n (a + (i-1)d)$$

Solution: C) ?i=0n ar^i

Can sigma notation be used to represent infinite series?

Solution: A) Yes

What is the formula for the sum of the first "n" terms of an arithmetic sequence?

A)
$$Sn = n/2(a + 1)$$

B)
$$Sn = n(a + 1)/2$$

C)
$$Sn = n(a + 1)$$

D)
$$Sn = (a + 1)/n$$

Solution: B)
$$Sn = n(a + 1)/2$$

What is the formula for the sum of the first "n" terms of a geometric sequence?

A)
$$Sn = n/2(a + 1)$$

B)
$$Sn = n(a + 1)/2$$

C)
$$Sn = a(1 - r^n)/(1 - r)$$

D)
$$Sn = a(1 + r^n)/(1 + r)$$

Solution: C) $Sn = a(1 - r^n)/(1 - r)$

Which test can be used to determine the convergence or divergence of an infinite series?

- A) The limit comparison test
- B) The integral test
- C) The root test
- D) All of the above

Solution: D) All of the above

What is the difference between an arithmetic sequence and a geometric sequence?

- A) In an arithmetic sequence, each term is the sum of the previous term and a constant; in a geometric sequence, each term is the product of the previous term and a constant.
- B) In an arithmetic sequence, each term is the product of the previous term and a constant; in a geometric sequence, each term is the sum of the previous term and a constant.
- C) In an arithmetic sequence, each term is the product of the previous term and a constant; in a geometric sequence, each term is the difference of the previous term and a constant.
- D) In an arithmetic sequence, each term is the difference of the previous term and a constant; in a geometric sequence, each term is the sum of the previous term and a constant.

Solution: A) In an arithmetic sequence, each term is the sum of the previous term and a constant; in a geometric sequence, each