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)

Solution: B) ?i=1n (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)

C) ?i=0n ar^i

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

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

Can sigma notation be used to represent infinite series?

A) Yes

B) No

Solution: A) Yes

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

A) Sn = n/2(a + l)

B) Sn = n(a + l)/2

C) Sn = n(a + l)

D) Sn = (a + l)/n

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

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

A) Sn = n/2(a + l)

B) Sn = n(a + l)/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