# 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