Geometric Series



Examples

1. Determine the 10th and $n$th terms of the following:

a) 3, 6, 12, 24, …

b) 40, -20, 10, -5, …

2. The second term of a geometric sequence is 4 and the 4th term is 8. The common ratio is positive. Find the exact values of:

1. The common ratio.
2. The first term.
3. The 10th term.

3. The numbers $3, x$ and $x+6$ form the first three terms of a positive geometric sequence. Find:

a) The value of $x$.

b) The 10th term in the sequence.

Inequalities Example

 What is the first term in the geometric progression $3, 6, 12, 24, …$ to exceed 1 million?

Test Your Understanding

1. All the terms in a geometric sequence are positive.

The third term of the sequence is 20 and the fifth term 80. What is the 20th term?

2. The second, third and fourth term of a geometric sequence are the following:

$$x,   x+6,  5x-6$$

a) Determine the possible values of $x$.

b) Given the common ratio is positive, find the common ratio.

c) Hence determine the possible values for the first term of the sequence.

Ex 3c Pg 69