Watch. Practice. Understand. | Lesson 202

Pre Calculus 11 3 Geometric Sequences and Series

Watch the matching video: https://www.youtube.com/watch?v=gJvix9uiwxk

Practice focus: Geometric sequences and series

Original extra practice matched to the listed lesson topic.

Name: _____ Date: _____ Show your reasoning and check units.

01 Find term 6 of 3, 6, 12, ...

02 Find the first 6-term sum of 3, 6, 12, ...

03 Find the infinite sum 12 + 6 + 3 + ...

04 Does 1 - 2 + 4 - 8 + ... converge?

Worked answers | Lesson 202

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Practice focus: Geometric sequences and series

Original extra practice matched to the listed lesson topic.

01 Find term 6 of 3, 6, 12, ...

a_n = 3(2)^(n - 1), so a_6 = 96.

02 Find the first 6-term sum of 3, 6, 12, ...

$S_6 = 3(2^6 - 1)/(2 - 1) = 189$.

03 Find the infinite sum 12 + 6 + 3 + ...

Ratio r = 1/2 has magnitude below 1. Sum = 12/(1 - 1/2) = 24.

04 Does 1 - 2 + 4 - 8 + ... converge?

No. The terms do not approach zero; also the geometric ratio has magnitude 2 > 1.