Find the common ratio and the 11^{th} term of the geometric sequence

$486, -162, 54, -18, 6, \ldots$

- Recall that for any arithmetic sequence $a, ar, ar^2, ar^3, \ldots$ the n-th term is

  ar^{n-1} where a is the first term and r is the common ratio.

- For the geometric sequence $486, -162, 54, -18, 6, \ldots$

  $a = 486$ and $r = -\frac{1}{3}$

- So the 12^{th} term is

  $(486)\left(-\frac{1}{3}\right)^{10} = .00823$