

## Algebra 2 CP

## Geometric series worksheet

Name \_\_\_\_\_

Period \_\_\_\_\_

- Find the sum of the geometric series  $4 + 2 + 1 + \cdots + \frac{1}{16}$ .
- Find the sum of the geometric series  $9 + 3 + 1 + \cdots + \frac{1}{27}$ .
- Find the sum of the geometric series  $\frac{1}{125} + \frac{1}{25} + \frac{1}{5} + \cdots + 25$ .
- Find the sum of the geometric series  $\frac{1}{64} + \frac{1}{16} + \frac{1}{4} + \cdots + 16$ .
- In a geometric progression, the first term is  $-3$  and the common ratio is  $-2$ . Find the sum of the first 7 terms.
- In a geometric progression, the first term is  $-2$  and the common ratio is 3. Find the sum of the first 8 terms.
- In a geometric progression, the first term is 108 and the common ratio is  $\frac{2}{3}$ . Find the sum of the first 4 terms.
- In a geometric progression, the first term is 1250 and the common ratio is  $\frac{3}{5}$ . Find the sum of the first 5 terms.
- In a geometric sequence, the first term is 9 and the common ratio is  $\frac{2}{3}$ . Find the 5th term and the sum of the first 5 terms.
- In a geometric sequence, the first term is 36 and the common ratio is  $\frac{1}{3}$ . Find the 5th term and the sum of the first 5 terms.
- Find the sum of the first 6 terms of the geometric series  $80 + (-20) + 5 + \cdots$ .
- Find the sum of the first 7 terms of the geometric series  $162 + (-54) + 18 + \cdots$ .
- Find the sum of the first 7 terms of the geometric series  $224 + (-112) + 56 + \cdots$ .
- In a geometric sequence, the common ratio is 2 and the sum of the first 4 terms is  $-90$ . Find the first term of the sequence. (Difficult)
- In a geometric sequence, the common ratio is  $-5$  and the sum of the first 3 terms is 147. Find the first term of the sequence. (Difficult)
- In a geometric sequence, the first term is  $-5$ , the common ratio is 4, and the  $n$ th term is  $-1280$ . Find the sum of the first  $n$  terms.
- In a geometric sequence, the first term is 6, the common ratio is 2, and the  $n$ th term is 192. Find the sum of the first  $n$  terms.
- In a geometric progression, the first term is 9, the common ratio is  $-2$ , and the  $n$ th term is  $-1152$ . Find the sum of the first  $n$  terms.