

NAME:

Extension Test: Geometric Sequences and Series

For problems 1–2, use the geometric sequence: 1600, -320 , 64, -12.8 , ...

- 1) Determine the common ratio.
- 2) Find the seventh term in the sequence.

For problems 3–5, use the scenario.

Demi made a goal of running the total distance of a marathon (42 kilometers) over 30 days. To continuously improve her running abilities, she planned to increase her running distance 10% each day.

- 3) Demi decides she needs to have 5 rest days during the month-long marathon. What is the starting distance on day one? (Round to the nearest hundredth of a km.)

4) What distances will Demi run for the first 3 days?

5) What is the total distance Demi has completed after 10 days of running?