

## Sequences 2

Do All work on a separate piece of paper.

Consider the two sequences:

$$A: -8, -5, -2, 1, \dots$$

$$B: 256, 128, 64, \dots$$

- For each sequence, is it arithmetic, geometric, or neither? How can you tell? Explain completely.
- What are the zeroth term and the generator for each sequence?
- For each sequence, write an equation representing the sequence.
- Is 378 a term of sequence A? Justify your answer.
- Is  $\frac{1}{4}$  a term of sequence B? Justify your answer.

List the first five terms of each geometric sequence.

$$39. \quad t(n) = 5 \cdot 2^n$$

$$40. \quad t(n) = -3 \cdot 3^n$$

$$41. \quad t_n = 40 \left(\frac{1}{2}\right)^{n-1}$$

$$42. \quad t(n) = 6 \left(-\frac{1}{2}\right)^{n-1}$$

$$43. \quad t(1) = 5, \quad t(n+1) = t(n) \cdot 3$$

$$44. \quad t(1) = 100, \quad t(n+1) = t(n) \cdot \frac{1}{2}$$

Find a recursive and explicit equation for each sequence.

$$51. \quad 2, 10, 50, 250, 1250, \dots$$

$$52. \quad 16, 4, 1, \frac{1}{4}, \frac{1}{16}, \dots$$

$$53. \quad 5, 15, 45, 135, 405, \dots$$

$$54. \quad 3, -6, 12, -24, 48, \dots$$