## Mid-Chapter Review

## Arithmetic Sequences

1. The first term of an arithmetic sequence is -32 , and the sequences increases by 5 from term to term.
a. Write the general term, in simplified form.
b. Write the recursive formula.
2. The first three terms of an arithmetic sequence are $7,3,-1$.
a. Determine the 17th term of the sequence.
b. Write the recursive formula.
3. The 7 th term of an arithmetic sequence is 35 and the 13 th term is 77 .
a. Write the general term.
b. Use your general term to find the 100th term.

## Geometric Sequences

1. The first term of a geometric sequence is 64 , and the second term is 32 .
a. Write the general term.
b. Write the recursive formula.
2. The first three terms of a geometric sequence are $4,12,36$.
a. Determine the $17^{\text {th }}$ term of the sequence.
b. Write the recursive formula.
3. The $5^{\text {th }}$ term of a geometric sequence is 256 and the $10^{\text {th }}$ term is 262,144 .
a. Write the general term.
b. Use your general term to find the $7^{\text {th }}$ term.

## Mixed Sequences

1. Given the sequence below

250, 248, 245, 241, 236, 230, ...
a. Determine the next 3 terms.
b. Write the recursive formula.
2. Given the sequence below

$$
5,-7,17,-31,65,-127,257,-511, \ldots
$$

a. Determine the next 3 terms.
b. Write the recursive formula.
3. Given the sequence below

$$
\frac{3}{2}, \frac{6}{5}, \frac{9}{10}, \frac{12}{17}, \frac{15}{26}, \frac{18}{37}
$$

a. Determine the next 3 terms.
b. Write the general term.
c. Use your general term to determine the $10^{\text {th }}$ term.

