Chapter 12 (p. 900, 12-5)

converge

converge: An infinite series converges when the common ratio $|r| < 1$ and the partial sums approach a fixed number.

$$\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \dots \text{ converges to 1.}$$

Chapter 12 (p. 900, 12-5)

diverge

diverge: An infinite series diverges when the common ratio $|r| \geq 1$ and the partial sums do not approach a fixed number.

$1 + 2 + 4 + 8 + 16 + \dots$ **diverges.**

Chapter 12 (p. 863, 12-1)

explicit formula

explicit formula: A formula that defines the nth term a_n, or general term, of a sequence as a function of n.

Sequence: 4, 7, 10, 13, 16, 19, …

Explicit formula: $a_n = 1 + 3n$

Chapter 12 (p. 862, 12-1)

finite sequence

finite sequence: A sequence with a finite number of terms.

1, 2, 3, 4, 5

Holt Algebra 2

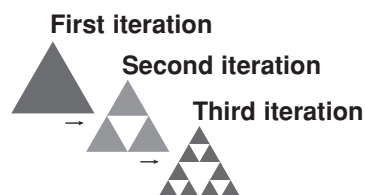**Chapter 12 (p. 862, 12-1)**

infinite sequence

infinite sequence: A sequence with infinitely many terms.

1, 3, 5, 7, 9, 11, …

Chapter 12 (p. 864, 12-1)

iteration

iteration: The repetitive application of the same rule.

First iteration

Second iteration

Third iteration

Chapter 12 (p. 862, 12-1)

recursive formula

recursive formula: A formula for a sequence in which one or more previous terms are used to generate the next term.

For the sequence 5, 7, 9, 11, …, a recursive formula is $a_1 = 5$ and $a_n = a_{n-1} + 2$.

Chapter 12 (p. 862, 12-1)

term of a sequence

term of a sequence: An element or number in the sequence.

5 is the third term in the sequence 1, 3, 5, 7, …