

Lesson 1-1 (cont.)

Geometric Sequence

-when a number is multiplied or divided in a constant pattern.

$$3, 6, 12, 24, \underline{48}, \underline{96}, \underline{192}$$

$\times 2 \quad \times 2 \quad \times 2 \quad \times 2 \quad \times 2 \quad \times 2$

$$800, 400, 200, 100, \underline{50}, \underline{25}, \underline{12.5}$$

$\div 2 \quad \div 2 \quad \div 2 \quad \div 2 \quad \div 2 \quad \div 2$

Find the next three terms of each sequence below and identify as *arithmetic*, *geometric*, or *neither*.

1) 5, 10, 15, 20, 25, 30, 35 arithmetic

$+5 \quad +5 \quad +5 \quad +5 \quad +5 \quad +5$

2) 2, 6, 18, 54, 162, 468, 1458 geometric

$\times 3 \quad \times 3 \quad \times 3 \quad \times 3 \quad \times 3 \quad \times 3$

3) 81, 72, 63, 54, 45, 36, 27 arithmetic

$-9 \quad -9 \quad -9 \quad -9 \quad -9 \quad -9$

4) $\frac{1}{12}, \frac{1}{13}, \frac{1}{14}, \frac{1}{15}, \frac{1}{16}, \frac{1}{17}$ neither

5) $\frac{1}{3}, \frac{1}{6}, \frac{1}{12}, \frac{1}{24}, \frac{1}{48}, \frac{1}{96}, \frac{1}{192}$ geometric

$\div 2 \quad \div 2 \quad \div 2 \quad \div 2 \quad \div 2 \quad \div 2$

Lily pads cover 10 ft^2 of the surface of a large lake. The area covered by the lily pads doubles every day.

A) Write a sequence to show the lake area that is covered by lily pads for the first 8 days.

Day :	1	2	3	4	5	6	7	8
Area :	10	20	40	80	160	320	640	1280

B) On what day will the lily pads cover $10,240 \text{ ft}^2$?

Day :	9	10	11	11th Day
Area :	2560	5120	10240	

C) If the lake is completely covered in 30 days, on what day will it be half covered?

29th Day