4.4: Geometric Sequences

Warm Up:
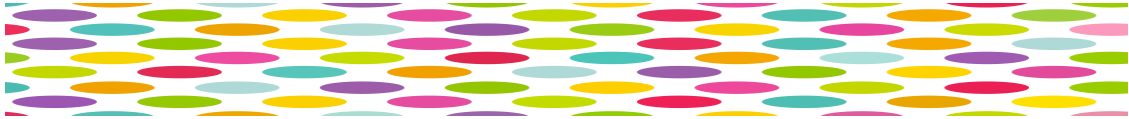
Evaluate $\sum_{n=1}^{478} 3n+2$

Consider the following sequence.

$$3,6,12,24,48,...$$

Write the sequence in RECURSIVE notation.

Geometric Sequences

Recursive Formula

Geometric Sequences
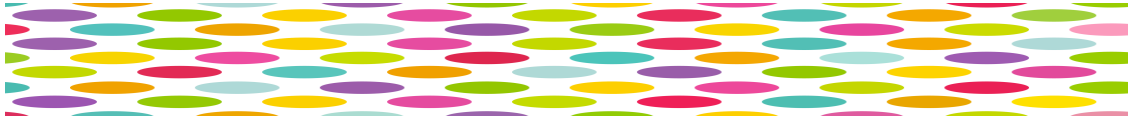
Explicit Formula

Example) Give the recursive and explicit notation for the geometric sequence.

10, 30, 90, 270, ...

Recursive: Explicit:

Example) Give the recursive and explicit notation for the geometric sequence.
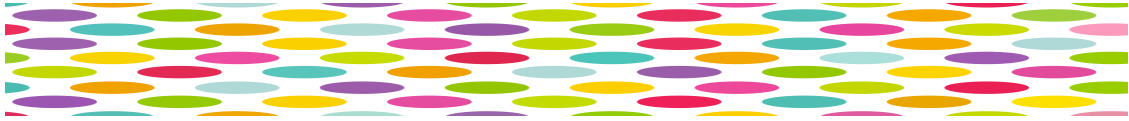
625, 125, 25, 5, 1, ...

Recursive: Explicit:

Write the explicit formula for the geometric sequence whose common ratio is 2 and $a_4 = 12$.
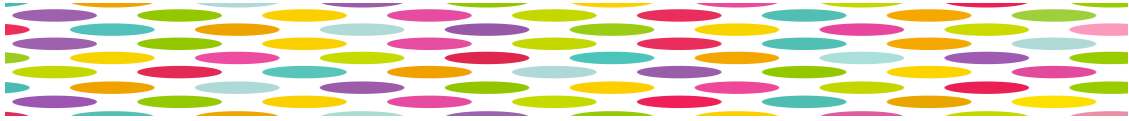
Two terms of a geometric sequence are a_3 = -48 and

a_6 = 3072. Write an explicit formula for the sequence.

Write each geometric series below in sigma notation.

a) 5 + 20 + 80 + 320 + . . . + 81,920

b) 15 - 30 + 60 - 120 + 240 - 480 + ...

Classwork/Homework

Problem Set 4.4