8-2 Sequences + Equations

Mrs. Gross

p.405 • A sequence is an ordered list of numbers
• Term refers to each number in the sequence

Term #	1	2	3	4
Term	6	7	8	9

+1 +1 +1

The common difference is +1

p.406 example #2: Write an equation to describe the sequence 7, 10, 13, 16... AND FIND THE 15th TERM!

Step #1: Set up a chart

Term #	1	2	3	4
Term	7	10	13	16

Step #2: Figure out the common difference
+3 each time

Step #3: Multiply the common difference by the term # (pick one)
$3 \cdot 2$

Step #4: What is needed to finish getting to the term?
$3 \cdot 2 = 6$ $6 + 4 = 10$

Step #5: Use this to write the equation!
$t = 3n + 4$

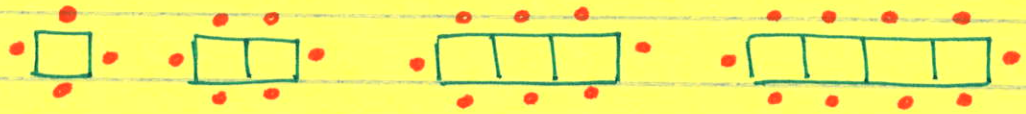
Step #6: Check the equation with another term #
$16 = 3 \cdot 4 + 4$ ☺ YES... it works!

Step #7: Find the 15th term
$t = 3 \cdot 15 + 4$ $t = 49$

(Back of pg. 32)

pg. 406 Example #3

The diagram shows the number of tables needed to seat people at a restaurant. How many tables are needed to seat 16 people?



Step #1

Term #	1	2	3	4
Term	4	6	8	10

Step #2 Common difference is +2

Step #3 $2 \cdot 3$

Step #4 $2 \cdot 3 = 6$ $6 + 2 = 8$

Step #5 $t = 2n + 2$

Step #6 $10 = 2 \cdot 4 + 2$ ✓

Step #7 * In this question, 16 refers to the people (red dots)... or term. The # of tables is the term #!

$16 = 2n + 2$

$-2 \quad -2$

$\frac{14}{2} = \frac{2n}{2}$

$7 = n$

16 people would need 7 tables