

Precalculus Honors  
**Sigma Notation**  
**LEARNING PLAN**  
 (Chapter 3)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Period: \_\_\_\_\_

**G** \_\_\_\_\_

Skill/Understanding:	Review/Practice Problems
<b>Sigma Notation</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> I understand that sigma notation represents a sum.</li> <li><input type="checkbox"/> I can identify the index and the argument in sigma notation.</li> <li><input type="checkbox"/> I understand that the index is only integer values.</li> <li><input type="checkbox"/> When given an expression in sigma notation I can expand and evaluate the sum.</li> <li><input type="checkbox"/> When given a series, I can express the series using sigma notation.</li> </ul>	<u>3-94, 3-111, 3-123, 3-135,</u> and <u>CL 3-151.</u>
<b>Area Under a Curve</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> I can approximate the area under a curve using left endpoint or right endpoint rectangles.</li> <li><input type="checkbox"/> I can tell when the area of the rectangles is an under approximation or an over approximation.</li> <li><input type="checkbox"/> I can express the area of the left endpoint or right endpoint rectangles using sigma notation</li> </ul>	<u>3-134, 3-134, 4-10, 4-45,</u> and <u>CL 4-128.</u>

Practice Problems:

1) Expand and Evaluate:

a. 
$$\sum_{n=2}^5 (4n^3 - 1)$$

b. 
$$\sum_{n=3}^7 (4n - 7)$$

2) Write the given expression using sigma notation.

a. 
$$0.4 \left( \frac{1}{2} + \frac{1}{2.4} + \frac{1}{2.8} + \frac{1}{3.2} + \frac{1}{3.6} \right)$$

b. 
$$0.2(4^3 + 4^{3.2} + 4^{3.4} + \dots + 4^{4.8})$$

3) Let  $g(x) = (x - 2)^2$ . Approximate  $A(g, 2 \leq x \leq 4)$  using right endpoint rectangles of width 0.5 units. Express your sum using sigma notation. Make sure to draw a sketch before solving.

4) Let  $g(x) = (x - 2)^2$ . Approximate  $A(g, 2 \leq x \leq 4)$  using left endpoint rectangles of width 0.5 units. Express your sum using sigma notation. Make sure to draw a sketch before solving.