

**Quick Review (4.1 - 4)**

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

1.) Give the **EXPLICIT** formula for an arithmetic sequence where  $a_{14} = 10$  and  $a_{18} = 66$ . Then find  $a_{237}$ .

2.) Find  $S_{47}$  for the sequence below.

{13, 21, 29, 37, 45,...}

3.) Evaluate  $\sum_{n=1}^{42} 3n - 4$ . Box your final answer.

4.) Write the sequence in recursive and explicit notation.

a) {16, -8, 4, -2, 1, ... }

b) {135, 90, 60, 40, ... }

Recursive: \_\_\_\_\_

Recursive: \_\_\_\_\_

Explicit: \_\_\_\_\_

Explicit: \_\_\_\_\_

5.) Write the series in sigma notation.

$2 + 10 + 50 + 250 + \dots + 31250$

6.) Write the series in sigma notation.

$1 + 9 + 17 + 25 + 33 + \dots + 513$

7.) Write the **EXPLICIT** formula for the geometric sequence such that  $a_6 = 30.375$  and  $a_{11} = 230.66$ .

8.) What term number is 1128 in the arithmetic sequence 8, 12, 16, ..., 1128, ...?

9.) An investment of \$1200 increases by 6.3% every year. Write an explicit formula that describes the value of the investment each year where  $a_1$  represents the initial value. How much is the investment worth after 8 years?

10.) Evaluate the sums.

a)  $\sum_{n=1}^{17} 6n - 2$

b)  $\sum_{n=0}^5 n^3 - n^2$

c)  $\sum_{k=1}^3 \frac{5}{k+3}$

d)  $\sum_{n=8}^{72} 54 + 12n$