

# “ $\sum$ ” notation worksheet

I. Write the following series in expanded form:

1.  $\sum_{k=1}^8 (2k + 5)$

2.  $\sum_{i=1}^{10} 24 \left(\frac{1}{2}\right)^i$

3.  $\sum_{k=3}^9 \left(\frac{1}{2}\right)^k$

4.  $\sum_{j=2}^8 (-3j + 8)$

5.  $\sum_{k=1}^8 \left(\frac{k}{2} - 3\right)$

II. Write the following series using sigma notation:

1.  $7 + 14 + 21 + 28 + 35 + 42 + 49$

2.  $3 + 9 + 27 + 81 + 243 + 729$

3.  $-7 + -3 + 1 + \cdots + 25$

4.  $\frac{3}{10} + \frac{3}{100} + \frac{3}{1000} + \frac{3}{10000} + \frac{3}{100000}$

5.  $-\frac{1}{2} + \frac{1}{4} + \left(-\frac{1}{8}\right) + \cdots + \frac{1}{64}$