Algebra 2
Sigma Notation

Name: _____
Period: _____

Series – sum of the terms of a sequence: $S_k = u_1 + u_2 + u_3 + \ldots + u_k$ **Sigma Notation**: $S_k = \sum_{n=1}^{k} u_n$

Expand and evaluate

1. $\sum_{n=1}^{4}(3n-5)$ 2. $\sum_{n=1}^{5}(11-2n)$ 3. $\sum_{n=1}^{7} n(n+1)$ 4. $\sum_{n=2}^{5} 10(2)^{n-1}$

Write each series using sigma notation

5. $1+2+3+4+5+6+7$ 6. $1^1+2^2+3^3+4^4+5^5$ 7. $1+\frac{1}{2}+\frac{1}{3}+\frac{1}{4}+\frac{1}{5}+\frac{1}{6}$

8. $\frac{1}{3^7}+\frac{1}{3^8}+\frac{1}{3^9}+\frac{1}{3^{10}}+\frac{1}{3^{11}}$ 9. $3+7+11+15+\ldots+u_{20}$ 10. $2+6+18+\ldots+u_{12}$

11. $100+93+86+\ldots+u_{40}$ 12. $500+100+20+\ldots+u_{17}$ 13. $5+8+11+\ldots+u_{55}$

14. $4+3+\frac{9}{4}+\ldots+u_{15}$

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