

13.1 Summation Properties Worksheet

Directions. Use the *properties and formulas* discussed in class to evaluate each of the following summations, and answer the related questions.

$$1. \sum_{i=1}^{14} (3i + 2)$$

$$2. \sum_{i=1}^{12} (-2i^2 + 6)$$

$$3. \sum_{k=1}^{22} (-2k + 5)$$

$$4. \sum_{i=1}^{10} (i^3 - 2)$$

$$5. \sum_{n=8}^{24} (7n - 8)$$

$$6. \sum_{i=11}^{38} 18$$

$$7. \sum_{i=1}^{18} (i - 3)^2$$

$$8. \sum_{i=1}^{12} [(i - 7)(i + 7)]$$

$$9. \sum_{a=1}^7 (a-2)^3$$

$$10. \sum_{i=89}^{147} 0.7i - 32$$

11. Consider the series $-6 - 2 + 2 + 6 + \dots$. Find the number of terms, n , if $S_n = 640$.

12. Consider the series $-6 - 3 + 2 + 9 + \dots$. Find the number of terms, n , if $S_n = 1384$.

13. Consider the series $212 + 199 + 186 + 173 + \dots$. Find the number of terms, n , if $S_n = -4488$.