

# Appendix A - Summations Exercises & Problems

Andrew Theron Roberts

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## Exercises

### A.1 Summation Formulas and Properties

Exercise A.1-1

$$\sum_{k=1}^n (2k - 1) = 2 \sum_{k=1}^n k - \sum_{k=1}^n 1 = 2 \cdot \frac{n(n+1)}{2} - n = n^2 + n - n = n^2$$

Exercise A.1-2

Exercise A.1-3

Exercise A.1-4

Exercise A.1-5

Exercise A.1-6

Exercise A.1-7

Exercise A.1-8

### 1.2 Algorithms as a Technology

Exercise 1.2-1

Exercise 1.2-2

Exercise 1.2-3

## Problems

Problem 1-1: Comparison of Running Times