3) (10 pts) ANL (Summations and Recurrence Relations)

Determine the following summation in terms of n (assume n is a positive integer 2 or greater), expressing your answer in the form $an^3 + bn^2 + cn$, where a, b and c are rational numbers. (Hint: Try rewriting the summation into an equivalent form that generates less algebra when solving.)

$$\sum_{i=n^2-3}^{n^2+n-4} (i+4)$$

Computer Science Foundation Exam

January 12, 2019

Section II B

ALGORITHMS AND ANALYSIS TOOLS

NO books, notes, or calculators may be used,
and you must work entirely on your own.

Name: _____

UCFID: _____

NID: _____

Question #	Max Pts	Category	Passing	Score
1	5	DSN	3	
2	10	ALG	7	
3	10	DSN	7	
TOTAL	25		17	

You must do all 3 problems in this section of the exam.

Problems will be graded based on the completeness of the solution steps and <u>not</u> graded based on the answer alone. Credit cannot be given unless all work is shown and is readable. Be complete, yet concise, and above all <u>be neat</u>.