ACMAT100 Fall 2023
Professor Manguba-Glover
Homework 11 (5.1-5.2) Name: _____

Show all work and simplify all answers before circling/boxing them. If you do the problem incorrectly, or don't show sufficient work, you will be asked to rewrite the problem for credit.

Final due date: the day of the Unit 3 Exam.

(1) Evaluate the function $f(x) = 2x - 4$ at the indicated values.
   (a) Find $f(3)$
   (b) Find $f(-3)$

(2) Evaluate the function $r(t) = -t^3 - 3t^2 + 6$ at the indicated values.
   (a) Find $r(1)$
   (b) Find $r(-4)$

(3) Simplify $(x^2 + 4x - 6) + (7x - 5)$

(4) Simplify $(x^2 - 7x + 18) - (6x + 3)$

(5) Simplify $(8y^2 + 5y - 7) - (6y^2 - 16)$

(6) Simplify $(6a - 7b + 8c) - (-4a + 9b - 3c)$

(7) Simplify $(6a^2 - 7ab + 8b^2) - (8ab - 5b^2 - 4a^2b)$

(8) Multiply (and simplify) $(3w - 1)(4w + 3)$

(9) Multiply (and simplify) $(3x - 4)(3x + 4)$

(10) Multiply (and simplify) $(x^2 + x + 9)(x - 9)$

(11) Multiply (and simplify) $(3a - 4b)(4a^2 - ab + 4b^2)$

(12) Multiply (and simplify) $(x^3 - x^2 + 2x + 5)(x + 1)$

(13) Multiply (and simplify) $(x^2 - 4x + 6)(7x^2 - 5x + 4)$

(14) Multiply (and simplify) $(x + 6)^3$

(15) Multiply (and simplify) $(9x + 6y)^2$