Student Name: Alex

Assignment: Mid-term Exam - Section on Quadratics

Problem 1: Factor the expression x² + 5x + 6

Alex's Solution: (x + 6)(x - 1)

Instructor's Note: Incorrect factoring. The factors of 6 that add up to 5 are 2 and 3. Correct answer: (x+2)(x+3).

Problem 2: Solve for x in x² - 7x + 10 = 0

Alex's Solution:

(x - 2)(x - 5) = 0

x = -2, x = -5

Instructor's Note: Factoring is correct, but you made a sign error when solving for x. If (x-2)=0, then x=2. Correct answer: x=2, x=5.

Problem 3: Use the quadratic formula to solve 2x² - 3x - 5 = 0

The formula is x = [-b ± sqrt(b² - 4ac)] / 2a

Alex's Solution:

a=2, b=-3, c=-5

x = [3 ± sqrt((-3)² - 4(2)(-5))] / 2(2)

x = [3 ± sqrt(9 + 40)] / 4

x = [3 ± sqrt(49)] / 4

x = [3 ± 7] / 4

x = 10/4 = 2.5

x = -4/4 = -1

Instructor's Note: Perfect work! You seem to understand the formula well. The issue seems to be with factoring, not this method.