Same instructions as Mission 1. Thanks!

Problem 121 Your signature below indicates you have:

(a.) I read pages 138-157 of Stillwell's *Elements of Number Theory*: _____.

Problem 122 exercise 8.1.1 page 141

Problem 123 exercise 8.1.2 page 141

Problem 124 exercise 8.2.1 page 143

Problem 125 exercise 8.2.3 page 143

Problem 126 exercise 8.2.4 page 143

Problem 127 exercise 8.3.1 page 145

Problem 128 exercise 8.3.2 page 145

Problem 129 exercise 8.3.3 page 145

Problem 130 exercise 8.3.4 page 145

Problem 131 exercise 8.3.5 page 145

Problem 132 exercise 8.4.2 page 147 (this would seem to be a descent question)

Problem 133 exercise 8.5.1 page 148

Problem 134 exercise 8.6.1 page 151

Problem 135 exercise 8.6.3 page 151

Problem 136 exercise 8.6.4 page 151

Problem 137 exercise 8.8.3 page 153

Problem 138 *nostalgia:* Let $a \in \mathbb{Z}$. Show that $a^{12} - 1$ is divisible by 35 whenever $gcd(a, 35) = 1$

Problem 139 *nostalgia:* What is the remainder of 4^{232} when divided by 7

Problem 140 *nostalgia:* Suppose $2x99561 = [3(523+x)]^2$ where x is a missing digit (base ten is assumed). Find all possible values of x.