

Same instructions as Mission 1. Thanks!

Problem 101 Your signature below indicates you have:

(a.) I read pages 117-137 of Stillwell's *Elements of Number Theory*: _____.

Problem 102 exercise 7.1.1 page 119

Problem 103 exercise 7.1.2 page 119

Problem 104 exercise 7.1.3 page 119 (skip it if you get stuck here)

Problem 105 exercise 7.2.1 page 120

Problem 106 exercise 7.2.2 page 120

Problem 107 exercise 7.2.3 page 121

Problem 108 exercise 7.2.4 page 121

Problem 109 exercise 7.3.1 page 122

Problem 110 exercise 7.3.2 page 122

Problem 111 exercise 7.3.3 page 122

Problem 112 exercise 7.3.4 page 122

Problem 113 exercise 7.3.5 page 122

Problem 114 exercise 7.3.6 page 122

Problem 115 exercise 7.3.7 page 122

Problem 116 exercise 7.4.1 page 126

Problem 117 exercise 7.4.2 page 126

Problem 118 *nostalgia*: Prove that if a is relatively prime to 72 then $a^{12} \equiv 1 \pmod{72}$.

Problem 119 *nostalgia*: Find the remainder of $20!$ when divided by 23.

Problem 120 *nostalgia*: Prove or disprove that $674, 310, 976, 375$ is divisible by 11.