

Instructions

- Answer each question completely; justify your answers.
 - This assignment is due at 17:00 on Friday November 23rd in Assignment Box #43.
1. Exercise 5.1, parts (k) to (m)
 2. Solve for x : $13x \equiv 11 \pmod{19}$, $2x \equiv 9 \pmod{21}$, $20x \equiv 3 \pmod{23}$, $11x \equiv 2 \pmod{25}$.
 3. Exercise 6.3.
 4. Exercise 6.8.
 5. Exercise 6.12.
 6. Exercise 6.13.
 7. Exercise 6.14.
 8. Exercise 6.16.
 9. Exercise 6.18.
 10. Exercise 6.20.
 11. Exercise 6.24.
 12. Suppose that Bob uses the RSA cryptosystem, and has published his $n = 554111$ and $e = 520049$. Bob receives an encrypted message $C = 47051$ from Alice. Decrypt this message.