

CSCI 124 and CSCI 297 - Discrete Structures II - Fall 2006
GCD and Exponentiation Practice Problems

Find the GCD of the following numbers using the euclidean algorithm. In cases where the numbers are relatively prime, find the inverse of the smaller number modulo the larger one. You may use a calculator to compute remainders.

The answers will be provided online by late Friday.

1. 70, 120
2. 168, 504
3. 180, 600
4. 260, 455
5. 60, 84
6. 234, 470
7. 480, 1800
8. 84, 180
9. 120, 144
10. 292, 244
11. 210, 861
12. 64, 160
13. 308, 504
14. 1386, 1170
15. 1890, 450
16. 696, 432
17. 105, 231
18. 273, 595
19. 910, 1155

Compute the following exponentiations using the fast algorithm, square and multiply.

20. $39^{215} \bmod 121$
21. $52^{21} \bmod 63$
22. $111^{67} \bmod 129$