Problem Set 4 – revised version

Please turn in each problem on a separate page with your name.

1. Book, 7.12. \([\text{MODEXP} \in P]\)
2. Book, 7.14. \([P \text{ is closed under star}]\)
3. Book, 7.17. \([\text{if } P = NP \text{ then nearly all in } P \text{ are } \text{NP-complete}]\)
4. Book, 7.26. \([\text{PUZZLE is } \text{NP-complete}]\)
5. Book, 7.32. \([U \text{ is } \text{NP-complete}]\)
   NOTE: The book has a typo on this problem. It should say “\(\text{NTM } M\)” instead of “\(\text{TM } M\)”.
6. Book, 7.37. \([\text{if } P = NP \text{ then can factor in polynomial time}]\)
7. Book, 7.49. \([\text{resolution and } 2\text{SAT}]\)