

Practice these problems before class on October 17. The answers to these problems will be covered in this class. Understanding the answers to these questions is the best preparation for the midterm.

1. Show that if you multiply an m -bit number and an n -bit number, the result has at most $m + n$ bits.

Hint: can the product have $m + n + 1$ bits?

2. **Question 5.9 (c) and (g) of Algorithms by S. Dasgupta, below is the link:**

<http://www.cs.berkeley.edu/~vazirani/algorithms/chap5.pdf>