

**book problems**

§3.3 11, 14, 20

§4.2 2, 3, 5, 8(a) &amp; (b), 13

§4.3 3, 7, 11

**Non-book and extra credit problems:**

1. Find the largest prime  $< 100000$ . (worth 1 point)
2. Find the 100-th prime number. (worth 1 point)
3. List all the primes  $< 100000$  whose last four digits (in the decimal system) are 9999. ( $\frac{1}{2}$  point extra credit)
4. What is the largest gap between two consecutive primes  $< 100000$ . ( $\frac{1}{2}$  point extra credit)

Note: I suggest using a computer for some problems, e.g., mathematica, maple, or GP/Pari