In writing your proofs, fully explain all the important steps. Use full and grammatically correct English sentences. Be clear and concise.

Exercise numbers are from the end-of-section exercise sets in the 2002 reissue of Elementary Number Theory by James K. Strayer.

1. (5 points) Exercise Set 3.1, # 8

2. (5 points) Exercise Set 3.2, # 14 (a)

3. (5 points) Exercise Set 3.2, # 27 (a) and (b)

4. (5 points) Exercise Set 3.3, # 32 (You can find the answer in the section at the end of the textbook. However, you need to prove that it is the answer.)

5. (5 points) Exercise Set 3.4, # 47