Homework is due at the beginning of class on the date indicated. Collaboration is encouraged, but you are expected to write up your solutions independently. **Use of outside resources is not allowed.** Please indicate with whom you work on each assignment, and be sure to justify all your answers.

Writing proofs is a skill that takes practice. You should use your judgment when deciding which details to include. A typical proof will consist of a mix of calculations and complete English sentences with the ratio depending on the type of problem. Some textbook exercises may have hints in the back of the book—be aware that these hints are not complete solutions. If you have any questions about proof-writing or homework problems in general, feel free to send me an email or come see me during office hours.

Warm-up problems are meant to test your basic understanding of the material. Do not turn in solutions to them.

**Warm-up (do not turn in):** Brualdi #2.1, 2.2, 2.3

**Homework:** Brualdi #2.12, 2.22, 2.46(a), and:

A. A drawer is filled with three blue socks, three red socks, and four green socks. Eight socks are pulled out, one at a time. In how many ways can this be done? (Order matters, but socks of the same color are indistinguishable. For instance, one such way is RRBGGBRG.)

B. How many ways are there to cover a $3 \times 12$ rectangle with 12 nonoverlapping $1 \times 3$ tiles?