• Section 1.1: # 1, 7, 8, 32, 41, 50, 58, 61, 64, 65.
• Section 1.2: # 1, 3, 4, 8, 14, 16.
• Section 1.3: # 1, 3, 4, 10, 11, 13, 14, 17, 21, 36, 37, 44, 50, 51, 56.
• Section 1.5: # 7, 9, 18, 26, 27.
• “Scarves”
  You are knitting a scarf of constant width. Suppose \( q(x) = b + ax \) is the function that gives the length \( q(x) \), in feet, of the scarf after \( x \) balls of yarn have been used. Here \( a \) and \( b \) represent constants.
  (a) What is the value of \( b \)? Why?
  (b) Is \( a \) positive, negative, or zero? Explain.
  (c) Your friend is also knitting a scarf using a lace pattern that alternates between stitches and empty spaces. Your own scarf has no such empty spaces, only solid stitches. Your friend’s length formula is \( p(x) = cx \), where \( c \) is a constant. Which constant is larger, \( a \) or \( c \)? Why?

General Guidelines

• On most problems, putting down just the answer is not enough. Be sure to include an explanation whenever a question asks (like the scarf problem above), and to show all relevant work for computational problems. I will expect you to show your work and explain your answers on exams, so it is a good idea to get into the habit now.

• Please write neatly and legibly, so the grader can easily read your work.

• Leave space around the problems for the grader to write corrections and suggestions.

• Write up the problems in the order listed on this sheet. This helps the grader enormously. If you leave out a problem by accident and need to put it on the last page, please insert a note at the appropriate spot, telling the grader where to look for the problem.

• Staple your assignment together.