Let \( y = x^2 - 5x \).

(a) Explain in sentences why this equation defines \( y \) as a function of \( x \) but not \( x \) as a function of \( y \).

(b) Use your calculator to graph this equation in the window \(-9.4 \leq x \leq 9.4, -6.4 \leq y \leq 6.4\). Copy the graph carefully onto your paper.

(c) Use algebra to find the \( x \)-intercepts of this graph.

What is the domain of each of the following functions?

(a) \( f(x) = \frac{x^2 - 1}{x + 1} \)

(b) \( g(t) = \sqrt{2t - 4} \)

(c) \( C(q) = 7q^2 + 9q - 1 \)

A large apple contains 5.7 grams of dietary fiber, and a large banana contains 3.3 grams of dietary fiber.

(a) Write down an equation for a function that tells you how much fiber you get if you eat 2 bananas and \( x \) apples. (Use \( y \) to represent the grams of fiber.)

(b) If you eat two bananas, how many apples would you need to eat to get a total of 30 grams of fiber? (Round your answer to the next whole apple.)

Practice Problems

Do not turn these in.

Section 1.1, \# 3, 5, 7, 9, 11, 13, 15, 21, 25, 33, 35, 37

Section 1.2, \# 1, 3, 5, 7, 11, 13, 15, 17, 19, 21, 23, 27, 29, 31, 35, 37, 39, 41, 49
Homework Guidelines

• Show all your work.

• Submit your homework on plain or lined paper with a white background. **Do not use graph paper or colored paper.** If you use pages from a notebook, trim the rough edges.

• Don’t write in several columns. Each problem (or part of a problem) should begin on the left side of the page, and problems should appear in numerical order.

• Leave a 1-inch margin on all sides. Also leave room for me to write comments. Don’t try to squeeze a lot of work into a small space.

• When answering a word problem, your answer should have words, too. In fact, it should have complete sentences.

• Write darkly.

• Write legibly.

In general, anything you submit should look professional. If any of the above criteria are not met, your work may not be accepted for grading. These guidelines apply for **all** assignments in this course.