
What Kinds of Discontinuities Are There? Homework**Directions**

Complete each exercise. In addition, classify each discontinuity that appears in the functions in each problem using the formal scheme – remember, you can use the translation table if you find our class scheme more natural.

Use graph paper for any sketches. Book exercises are from *CPM Calculus, 2nd Edition*. Due at the start of the next class.

Book Exercises

- 1-18
- 1-24
- 1-44
- 2-74
- 2-77

Stretch Exercise 1. It's sometimes claimed that removable discontinuities aren't real discontinuities.

- a. Considering the domain of a function with a removable discontinuity, why do you think this claim is made?
- b. Can you see anything you would want to do with a function where you would care if it has a removable discontinuity? What about that you wouldn't care?

Stretch Exercise 2. Suppose $f(x)$ has a removable discontinuity at $x = 0$. What kind(s) of discontinuity(ies) can $g(x) = \frac{1}{f(x)}$ have at $x = 0$? How do you know?