Name: _____

Graph of Secant and Cosecant Functions

Exercise 1: Consider the functions given by

$$f(x) = \tan\frac{\pi x}{2} \quad \text{and} \quad g(x) = \frac{1}{2}\sec\frac{\pi x}{2} \quad \text{On the interval (-1, 1).}$$

1) Graph *f* and *g* in the same viewing window.
2) Approximate the interval in which $f < g$.
3) Describe the behavior of each of the functions as *x* approaches π. How is the behavior of *g* related to the behavior of *f* as *x* approaches π?

Exercise 2: Consider the functions given by

$$f(x) = \tan\frac{\pi x}{2} \quad \text{and} \quad g(x) = \frac{1}{2}\sec\frac{\pi x}{2} \quad \text{On the interval (-1, 1).}$$

1) Graph *f* and *g* in the same viewing window.
2) Approximate the interval in which $f > g$.

Approximate the interval in which $2f < 2g$. How does the result compare with that of part (b)? Explain.