Homework #2

Please write your answers on a separate sheet of paper.

1. From §1.8 of your textbook: 1, 2a, 26 (for this problem, estimate the answer to the first 5 decimal places—that is, keep plugging in numbers closer and closer to 0 until the 1st 5 decimal places of your output stop changing), 27, 29ab, 32ab, 34ab [N.B.: Be sure to set your calculator to radians, not degrees, when plugging the values given into trig functions!]

2. For the function $g$ whose graph is given, state the value of each quantity, if it exists. If it does not exist, say so, and explain why not.

3. For the function $h$ whose graph is given, state the value of each quantity, if it exists. If it does not exist, say so, and explain why not.

4. Evaluate the function at the given numbers (correct to 5 decimal places). Use the results to guess the value of the specified limit or to guess that the limit does not exist.

$$g(x) = \frac{x - 1}{x^3 - 1}, \quad x = .4, .8, .9, .99, 1.6, 1.2, 1.1, 1.01, \lim_{x \to 1} \frac{x - 1}{x^3 - 1}$$