In my observation of homework for 1.8 question 12, I notice many blank answers, or you used a table or graph to find the answer.

I am allowing this question in 1.8 to be resubmitted on Friday for full credit. So if you got this one wrong or did not do it, you can turn it in on Friday. See hint below.

Hint 1.8 question 12

The question was evaluating symbolically (algebraically). You can't evaluate a piecewise function using absolute value sign.
First you had to translate the function into a piecewise function. Recall that in class we went over how to change an absolute value function into a piecewise function. Anytime you are given a function with an absolute value, you will need to write it as a piecewise function.

$$\frac{|x-2|}{x} = \begin{cases} \dfrac{-(x-2)}{x} & x < 2 \\ \dfrac{(x-2)}{x} & x \geq 2 \end{cases}$$

Now you can evaluate the limits by picking the correct piece of the function that corresponds to the actually approach of 2.
Remember to use your limit rules to evaluate.

Webassign question hint

To make a function continuous
1. If there is a change in function on an interval. Set the two pieces equal to each other at the change in domain.
2. When the domain has a particular value(s) excluded $x \neq c$. We want to fill in the hole. Fill in the hole by the limit of the function as x approaches the value not in the domain.

A function that has a hole in the graph, the numerator and denominator are both zero for the same input value. So if a function has a hole; the numerator = 0.

Example:
So given $\frac{x^2+kx+15}{x-3}$ when $x \neq 3$
Find the value of *k* so that there is a hole? Once we have a hole we can make the function continuous by finding the limit of the function.
1. The denominator is zero when *x*=3. So we set the numerator equal to zero when *x* =3.
   $3^2 + k(3) + 15 = 0$ Solve for k. Remember a zero of a function makes a factor of the function.
If a function has a hole the numerator and denominator have the same factor.

2. Now we can find the limit of the function as x approaches 3.
   $\lim_{x\to 3} \frac{x^2-8x+15}{x-3} = \lim_{x\to 3} \frac{(x-3)(x-5)}{x-3} = \lim_{x\to 3}(x-5)$
   $(x-5)$ is continuous (linear)
   evaluate by plugging $x = 3$
   $=3-5=-2$
If we let the function value at $x = 3$ be -2 then this function would be continuous. And $k = -8$.

Hope this helps.

You should be starting to discover that doing these homework problems makes you put two or more ideas together.

To make a function continuous the limit of the function as x approaches c must equal the function value at c.