

SECTION ASSIGNMENT #6- DUE TUESDAY 3/4  
POST PRELIM I REFLECTION AND EXERCISES

1. Please reflect on what you did to prepare for the exam and answer the following:

- What did you feel most/least prepared for going into the exam?  
Do you think your exam work reflected this? (Why/why not?)
- \* Which of the study methods you employed do you think were the most effective?
- \*Based on what you did to prepare, are there any adjustments you want to make to your studying/preparation regime? (examples: read the textbook, talk to others more, take advantage of certain posted resources, etc.)

Please carefully complete the following exercises. It looks like a lot, but they're all very brief.

2. Consider the following functions.

$$f(x) = x, \quad g(x) = \frac{1}{x}, \quad h(x) = \frac{1}{x^2}$$

Compute the following limits, or explain why the limit does not exist.

- a)  $\lim_{x \rightarrow 0} f(x)$
- b)  $\lim_{x \rightarrow 0} g(x)$
- c)  $\lim_{x \rightarrow 0} h(x)$
- d)  $\lim_{x \rightarrow 0} f(x)g(x)$
- e)  $\lim_{x \rightarrow 0} f(x)h(x)$
- f) True or False: Let  $k(x)$  be a function such that  $\lim_{x \rightarrow 0} k(x) = 0$ . Then for any function  $m(x)$  we can say that  $\lim_{x \rightarrow 0} k(x)m(x) = 0$  because 0 times anything is always zero.

3. Which of the following expressions are equal to  $e^{\ln(a) - \ln(b)}$ ?

(There may be more than one. Select all that apply.)

- a)  $e^{\ln(a)}e^{\ln(b)}$
- b)  $\frac{a}{b}$
- c)  $a - b$
- d)  $\ln(a) - \ln(b)$
- e)  $\frac{e^{\ln(a)}}{e^{\ln(b)}}$