

Assignment #3

Due in lecture on Friday, October 22.

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§3.2	p. 93	2, 7, 14, 20(a)	3, 8, 11, 16, 31
§3.3	p. 108	1, 5, 10, 11, 15	4, 7, 8, 12, 19
§3.5	p. 131	2, 5, 11, 27	8, 12, 16, 19, 24

Also to hand in:

Problem G-1. (a) Find $\lim_{x \rightarrow 0} \frac{\log(1-x)}{x}$. (Use l'Hôpital).

(b) Find $\lim_{n \rightarrow \infty} n \log(1 - \frac{1}{n})$. (Method: Substitute in (a).)

(c) Find $\lim_{n \rightarrow \infty} (1 - \frac{1}{n})^n$. (Method: Apply a continuous function to both sides of (b).)

(d) How does this help give a good approximate answer to Problem E-1? Evaluate it on a calculator and see how it matches your numerical answer to E-1.