

*Preparing for Class 33*

Reading: Review *H-H* Section 5.5. Read Section 4.8.

Problems: Section 5.5, #4, 5, 6, 9, 11; also complete the Class 32 worksheet. This will be discussed in Class 33, but will not be collected with the homework.

**Homework Due:** Only problems assigned to prepare for Classes 31, 32, and 33 are due at the start of Class 33.

**Monday, November 13**

*Class 33:*

**L'Hospital's Rule**

In optimization and graphing problems we often want to know what happens to a function as its argument approaches an endpoint of its domain (this could be  $+\infty$  or  $-\infty$ .) Sometimes this leads to limits which we have not known how to evaluate except by numerical approximation. Examples you have seen are  $\lim_{x \rightarrow 0^+} x \ln(x)$  and  $\lim_{x \rightarrow 0} \sin(x)/x$ . In some cases, a technique based on tangent line approximations will be useful. This is called L'Hospital's Rule.

*Preparing for Class 34*

Reading: Review *H-H* Section 4.8 and the Exam 3 review guide.

Problems: *H-H* Section 4.8, # 6-9, 10, 11, 12, 17, 22.

**Wednesday, November 15**

*Class 34:*

**Putting It All Together**

This second unit has looked at applications of derivatives to graphing and optimization. Derivatives have also been used in related problems of root-finding (Newton's Method) and determining limits (L'Hospital's Rule). Today's class will look at some problems which draw on all of the techniques we have studied in this unit.

**No Take-Home Quiz This Week**

**Lab: Exam Review & L'Hospital's Rule**

*Preparing for Class 35*

Reading: Review for the exam!

Problems: Review problems.

**Friday, November 17**

*Class 35:*

**Review for Exam 3**

Come to class prepared with questions from your reviewing for Exam 3.

**Exam 3 will be given 6:30 - 9:30 pm, Friday, November 17, Fowler 302 & 316.  
Bring your calculator (set to RADIAN mode!)**