

Homework is regularly assigned but not collected. Do it promptly. Keep a separate homework notebook.

The requirements below apply to work on exams and quizzes as well as to homework solutions.

**Your solutions must include reasoning. Write clearly, include sentences in your work.** This helps reinforce logical structure, and trains you in critical thinking.

**Your solutions must be organized and legible.**

**You must use proper notation, and include complete sentences.** If you introduce a variable, state clearly what it stands for. Do not put an equals sign between unequal quantities, or quantities you have not yet proved are equal. Use words like “hence”, “therefore” to connect statements or equations, and indicate the chain of reasoning. Interpret your answers. Use “we are given”, “we want to show that” to distinguish clearly between what is given and what is to be found.

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*Last Updated: Friday 25<sup>th</sup> March, 2011, 18:53*

Problems done in class are also listed, most of the time.

§4.2 p. 226 19, 11, 15.

§4.4 p. 275 39, 41. Also study solved Example 5 on p.274

§4.5 p. 284 1 – 23(odd), 17, 33, 51, 57, 59, 69(challenge).

Give an explanation of the Fundamental Theorem of Calculus, using figures, words, a limit and a derivative. (Fig 4.19 and Fig. 4.20 on p.279 and the accompanying text will help).

In class: 4 (also find total area), 10, 14, 20, 33(motivates topic of next section)

§4.6 p. 291 1 – 35 (odd), 39, 43, 49, 51, 53, 55, 57.

Study solved Examples 2, 3, 5, 6, 7 on p.288-290.

In class: 16, 23, 32, 40, 44, 57.

§4.7 p. 298 1 – 21 (odd), 25 – 31 (odd), 37, 47, 51 – 57(odd), 63, 65, 71, 75, 79.

In class: 8, 32, 42, 52, 64.

Study solved Examples 1, 2, 4, 5, 6 on p.292-298.

Use Integration Tables to solve: p.299: 39, 41, 42, 45; p.303: 71, 73, 105, 107, 109.

Reminder: Review supplemental material on units and the definite integral; average value.

Challenge problem (only after you have mastered all the others): p.300: 84

Review Questions: p. 301: 5, 11.

Additional Exercises: p. 301: 1 – 7(odd), 13, 17, 19, 35 – 43(odd), 51 – 69(odd), 77 – 83(odd), 89 – 103(odd).

§5.1 p. 311 1 – 18, 21 – 24, 33, 35, 36.

Study all the solved Examples 1-6 in this section.

For the assigned problems from 5.2 and 5.3, solve using a combination of  $u$ -substitution integration tables and reduction formulas. Some problems might be completely straightforward. Learn to recognize them.

- §5.2 Solve using a combination of  $u$ -substitution, integration tables and reduction formulas. Some problems might be completely straightforward! Learn to recognize them.  
p. 318 5, 9, 11, 13, 17, 19, 22, 25, 29, 35.
- §5.3 The guidelines for §5.2 also apply to §5.3.  
p. 322 1 – 13 (odd), 29, 35, 39.
- §5.4 p. 328 1 – 23 (odd), 29, 33, 35, 37, 41. In class: 12, 18, 24.  
Study solved Examples 1 – 5, p.324–328.
- §5.5 p. 334 11, 13, 17, 21, 23, 29, 35, 39, 41.
- §5.6 p. 342 7, 17, 23, 24, 25, 26.
- §5.7 p. 352 1 – 19 (odd), 25, 27, 33, 48, 56, 66, 69.
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- §3.7 p. 224 1, 3, 9 – 23 (odd), 31, 45, 55, 61, 63, 66.  
Study solved Examples 1, 4, 7, 8 from p. 220 – 224.  
Emphasis on Indeterminate forms  $0/0$ ,  $\infty/\infty$ ,  $1^\infty$ .
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- §6.1 p. 365 1 – 3, 5b, 7 – 10, 13 – 17, 19 – 25 (odd), 35 – 40, 45, 47 – 52.  
Study solved Examples 1, 3, 4, 6, 7, 8, 9, 10 on p. 357 – 364.  
In class: 2, 8, 10b, 16, 36, 40, 48.
- §6.2 skip
- §6.3 p. 379 3, 7, 9, 17, 19, 21, 35.  
Problem 19 can be done using Integral Tables. For Problem 21, use the `nInt` function on your calculator, that evaluates integrals numerically.  
Study solved Examples 1, 2, 3.
- §6.4 p.388 1, 5, 7, 9, 11, 17, 19 – 25, 27, 29, 31 – 33, 35.  
Study solved Examples 1 – 5.
- §6.5 p.395 1 – 9 (odd), 13abc, 15 – 17.  
Study solved Examples 2 – 5, and problems from the Worksheet
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- §7.1 p. 419 7 – 27 (odd).  
In class: 12, 16, 20, 26, 37, 42, 48, 53, 58.
- §7.2 p. 429 3, 7 – 13 (odd), 23 – 33(odd), 41 – 47 (odd), 51, 57.  
In class: 12, 14, 28, 38, 42, 47.
- §7.3 p. 435 1 – 15, 17 – 19, 25, 28, 39, 40.  
In class: 9, 14, 18, 20, 28, 40.
- §7.4 p. 439 1 – 9, 11 – 13, 15, 17, 19, 20.  
In class: 3, 8, 12, 20.
- §7.5 p. 442 3, 4, 5, 8, 9, 11, 15, 17 – 22, 29, 30, 33, 37.  
In class: 20, 21, 22.

- §7.6 Study solved Examples 1, 3, 4. Theorem 15 on error estimation is important!  
Study the box on p. 447, summarizing the tests for convergence or divergence of a series.  
p 447 1, 3, 11, 13, 17, 18, 29, 34, 35, 45.  
In class: 18, 34
- §7.7 p 455 1 – 7 (odd), 8, 11, 13, 17, 25, 33, 34, 39 – 43.  
In class: 8, 14, 24, 41. Also solved Examples 5, 6 on p. 454–456
- §7.8 p 462 1, 2, 3, 5, 6, 9, 10, 11 – 17(odd), 21, 34, 37, 38.  
In class:
- §7.9 p 468 1, 2, 3, 7 – 10, 12, 17, 19, 20, 21, 23, 24, 25, 29, 30, 32.  
In class:

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