

Chapter 18 Review Questions



Studying for a chapter examination is a personal process, one which nobody else can do for you. Simply take the time to review what you have done. Here are the new terms in Chapter 18.

Antiderivative [18.4]	Differential calculus [18.1]	Limit [18.1]
Antiderivative of a sum [18.4]	Diverge [18.2]	Limit of a sequence [18.2]
Antiderivative of e^x [18.4]	Dummy variable [18.4]	Limits of integration [18.4]
Area function [18.4]	General term [18.2]	Mathematical modeling [18.1]
Area under a curve [18.4]	Indefinite integral [18.4]	Predecessor [18.2]
Average rate of change [18.3]	Infinite limit [18.2]	Secant line [18.1]
Calculus [18.1]	Instantaneous rate of	Sequence [18.2]
Constant multiple [18.4]	change [18.3]	Successor [18.2]
Converge [18.2]	Integral [18.1]	Tangent line [18.1, 18.3]
Definite integral [18.4]	Integral calculus [18.1]	Velocity [18.3]
Derivative [18.1; 18.3]	Integral of a sum [18.4]	
Differentiable function [18.3]	Integrand [18.4]	

If you can describe the term, read on to the next one; if you cannot, then look it up in the text (the section number is shown in brackets). Next, study the types of problems listed at the end of Chapter 18.

TYPES OF PROBLEMS

- Describe the limit process, including Zeno's paradox. [18.1]
- Describe the derivative, including the tangent problem. [18.1]
- Describe the integral, including the area problem. [18.1]
- Be able to guess the limit of a sequence. [18.1]
- Be able to draw the line tangent to a curve at a specified point. [18.1]
- Approximate an area by using rectangles. [18.1]
- Explain the process of mathematical modeling. [18.1]
- Write out the first 5 terms of a sequence when given a general term. [18.2]
- Find the limit of a sequence. [18.2]
- Solve applied problems involving limits of sequences. [18.2]
- Estimate a rate of change by looking at a graph. [18.3]
- Estimate the slope of a tangent line by looking at a graph. [18.3]
- Find an average rate of change for a given function over an interval. [18.3]
- Find an instantaneous rate of change for a given function at a particular point. [18.3]
- Find the derivative by using the definition of derivative. [18.3]
- Find the equation of a tangent line. [18.3]
- Evaluate an area function. [18.4]
- Find an antiderivative. [18.4]
- Find the area under a curve. [18.4]
- Approximate the value of a definite integral by using areas. [18.4]

Once again, see if you can verbalize (to yourself) how to do each of the listed types of problems.

Work all of Chapter 18 Review Questions (whether they are assigned or not). Work through all of the problems before looking at the answers, and *then* correct each of the problems. The entire solution is shown in the answer section at the back of the text. If you worked the problem correctly, move on to the next problem, but if you did not work it correctly (or you did not know what to do), look back in the chapter to study the procedure, or ask your instructor.

Finally, go back over the homework problems you have been assigned. If you worked a problem correctly, move on to the next problem, but if you missed it on your homework, then you should look back in the book or talk to your instructor about how to work the problem.

If you follow these steps, you should be successful with your review of this chapter.