

Key to Interactive Examples[†]
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for Math 151 at SDSU

Look for examples that are similar to your homework and examination problems.

Chapter 6. Applications of Integration

<i>Stewart</i>	Topic	Interactive Examples
Section 6.1	Areas between curves	Section 7.1: 1–5
Section 6.2	Volumes	Section 7.2: 1–4 Section 7.3: 1, 2
Section 6.3	Volumes by cylindrical shells	Section 7.4: 1, 2
Section 6.4	Work	Section 7.9: 1–4
Section 6.5	Average value of a function	Section 7.7: 1–3

Chapter 7. Techniques of Integration

<i>Stewart</i>	Topic	Interactive Examples
Section 7.1	Integration by parts	Section 8.1: 1–5
Section 7.2	Trigonometric integrals	Section 8.2: 1–3
Section 7.3	Trigonometric substitution	Section 8.3: 1–4
Section 7.4	Integration by partial fractions	Section 8.4: 1–5
Section 7.5	Strategy for integration	
Section 7.6	Integration using tables	Section 8.5: 1–3
Section 7.7	Approximate integration	Section 6.5: 1–3
Section 7.8	Improper integrals	Section 8.6: 1–5

[†]See the web site <http://www.math.ucsd.edu/~ashenk/>.

Chapter 8. Further Applications of Integration

Stewart	Topic	Interactive Examples
Section 8.1	Arc length	Section 7.5: 1
Section 8.2	Area of a surface of revolution	Section 7.5: 2
Section 8.3	Applications to physics and engineering	Section 7.8: 1–3
Section 8.4	Applications to economics and biology	
Section 8.5	Probability	

Chapter 9. Differential Equations (Fifth Edition of the textbook)

Section 9.1	Modeling with differential equations	
Section 9.2	Direction fields and Euler's Method	Section 9.1: 4 Section 9.4: 1
Section 9.3	Separable equations	Section 9.1: 1–3, 5–8 Section 9.2: 1–3
Section 9.4	Exponential growth and decay	Section 3.4: 1–5
Section 9.5	The logistic equation	
Section 9.6	Linear equations	Section 9.3: 1–3
Section 9.7	Predator prey problems	

Chapter 9. Differential Equations (Sixth Edition of the textbook)

Section 9.1	Modeling with differential equations	
Section 9.2	Direction fields and Euler's Method	Section 9.1: 4 Section 9.4: 1
Section 9.3	Separable equations	Section 9.1: 1–3, 5–8 Section 9.2: 1–3
Section 9.4	Models for population growth	
Section 9.5	Linear equations	Section 9.3: 1–3
Section 9.6	Predator prey problems	

Chapter 10. Parametric Equations and Polar Coordinates

<i>Stewart</i>	<i>Topic</i>	<i>Interactive Examples</i>
Section 10.1	Curves defined by parametric equations	Section 13.1: 1–6
Section 10.2	Calculus with parametric curves	Section 13.2: 1–4, 6–8
Section 10.3	Polar coordinates	Section 11.3: 1–5
Section 10.4	Areas and lengths in polar coordinates	
Section 10.5	Conic sections	Section 11.1: 1–6
Section 10.6	Conic sections in polar coordinates	

Chapter 11. Infinite Sequences and Series

Section 11.1	Sequences	Section 10.1: 1–5
Section 11.2	Series	Section 10.2: 1–3
Section 11.3	The Integral Test and estimates of sums	Section 10.3: 1–5
Section 11.4	The Comparison Tests	Section 10.4: 1–5
Section 11.5	Alternating series	Section 10.5: 3
Section 11.6	Absolute convergence and the Ratio Test	Section 10.5: 1, 2, 4, 5
Section 11.7	Strategy for testing series	
Section 11.8	Power series	Section 10.7: 1–4
Section 11.9	Representation of functions as power series	
Section 11.10	Taylor and MacLaurin series	Section 10.7: 5–9
Section 11.11 (Fifth Edition)	The binomial series	
Section 11.11 (Sixth Edition)	Applications of Taylor series	
Section 11.12 (Fifth Edition)	Applications of Taylor series	