

Key to Interactive Examples[†]
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for Math 150 at SDSU

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

Chapter 1. Functions and Models

<i>Stewart</i>	Topic	Interactive Examples
Section 1.1	Four ways to represent a function	Section 0.1: 1–4
Section 1.2	Mathematical models: A catalog of essential functions	Section 2.1: 1, 3 Section 0.3: 2, 5, 6 Section 0.5: 1–7
Section 1.3	New functions from old functions	Section 0.3: 7, 8
Section 1.4	Graphing calculators and computers	
Section 1.5	Exponential functions	Section 0.3: 1, 3, 4
Section 1.6	Inverse functions and logarithms	Section 0.4: 1–7

Chapter 2. Limits and Derivatives

<i>Stewart</i>	Topic	Interactive Examples
Section 2.1	The tangent and velocity problems	
Section 2.2	The limit of a function	Section 1.1: 1–3
Section 2.3	Calculating limits and the limit laws	Section 1.1: 4–7
Section 2.4	The precise definition of a limit	Section 1.4: 1–5
Section 2.5	Continuity	Section 1.2: 1–5
Section 2.6	Limits at infinity: horizontal asymptotes	Section 1.3: 1–4
Section 2.7	Tangents, velocities, and other rates of change	Section 2.1: 1–6 Section 2.2: 1–4
Section 2.8	Derivatives	Section 2.3: 1–5 ($\Delta x = h$ in #5) Section 2.5: 1–5
Section 2.9	The derivative as a function	

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

Chapter 3. Differentiation Rules

Stewart	Topic	Interactive Examples
Section 3.1	Derivatives of polynomials and exponential functions	Section 2.4: 1–4 Section 3.1: 1, 2
Section 3.2	The Product and Quotient Rules	Section 2.6: 1–4 Section 3.3: 3, 5
Section 3.3	Rates of change in the natural and social sciences	
Section 3.4	Derivatives of trigonometric functions	Section 3.5: 1 Section 3.6: 1, 5
Section 3.5	The Chain Rule	Section 2.7: 1–3 Section 3.1: 1, 2 Section 3.3: 3, 5, 6, 8 Section 3.5: 2–4
Section 3.6	Implicit differentiation	Section 3.6: 4 Section 5.3: 1–5
Section 3.7	Higher derivatives	Section 2.5: 6
Section 3.8	Derivatives of logarithm functions	Section 3.2: 1–4
Section 3.9	Hyperbolic functions	Section 3.7: 1–6
Section 3.10	Related rates	Section 2.7: 4 Section 3.5: 5 Section 3.10: 1–3

Chapter 4. Applications of Differentiation

Stewart	Topic	Interactive Examples
Section 4.1	Maximum and minimum values	Section 4.1: 1, 2
Section 4.2	The Mean Value Theorem	
Section 4.3	How derivatives affect the shape of a graph	Section 4.3: 3 Section 4.2: 1, 2 Section 4.3: 1–4 Section 4.4: 1
Section 4.4	Indeterminate forms and l'Hopital's Rule	Section 4.4: 1–9
Section 4.5	Summary of curve sketching	
Section 4.6	Graphing with calculators and computers	
Section 4.7	Optimization problems	Section 4.6: 1–5
Section 4.8	Applications to business and economics	
Section 4.9	Newton's method	Section 5.4: 1–3
Section 4.10	Antiderivatives	