

CALCULUS

The Quotient Rule $\frac{d}{dx} \left(\frac{u}{v} \right) = \frac{v(du/dx) - u(dv/dx)}{v^2}$

The Product Rule $\frac{d}{dx} (uv) = v \frac{du}{dx} + u \frac{dv}{dx}$

Integration by Parts $\int u \frac{dv}{dx} dx = u v - \int v \frac{du}{dx} dx$

Implicit Differentiation $\frac{d}{dx} (y^2) = 2y \frac{dy}{dx}$

The Product Rule $\frac{d}{dx} (\csc x) = -\csc x \cot x$

Integration by Parts $\int \frac{1}{x} dx = \ln|x| + C$

Integration by Parts $\int \sec x \tan x dx = \sec x + C$

Integration by Parts $\int [f(x)]^n f'(x) dx = \frac{[f(x)]^{n+1}}{n+1} + C$

Friday, Sept. 3

Finding Limits from Graphs Handout
p. 111 1-6 p. 131 1-4

Sec. 2.3 pp. 76-77
28, 29, 41, 42, 43, 45, 47, 51, 52

Sec. 2.2 pp. 65-68
11, 16, 28-31

Wednesday, Sept. 8

Sec. 2.4 pp. 85-87
9, 11, 19, 21, 22b, 23a, 25, 27

Limits at Infinity Handout
1-4, 15, 19, 20, 23, 26, 27 & problems at right

a) $\lim_{x \rightarrow \infty} \frac{\sqrt{36x^6 - 3x^3 + 2}}{4 - 3x^3 + 2x^2}$ b) $\lim_{x \rightarrow \infty} (5 + 2x^2 - 3x^3)$

c) $\lim_{x \rightarrow \infty} \frac{\sqrt[4]{2 - x^2 + 16x^4}}{1 - 8x}$ d) $\lim_{x \rightarrow \infty} (6x^2 - 5x^5 + 2)$

Friday, Sept. 10

Introduction to Limits of Special Functions

Limit Worksheet

**NO HOMEWORK
COUPONS**

Tuesday, Sept. 14

Asymptotes Handout

Continuity Handout

**Math
Matters
Due**

Thursday, Sept. 16

Calculating limits with CAS

Journal Due

Brief look at epsilon-delta definition
of limits

Review Limits

Tuesday, Sept. 21

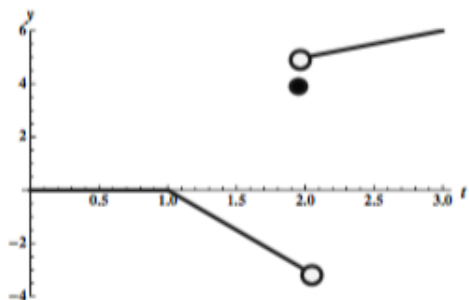
Limits Test

ANSWERS

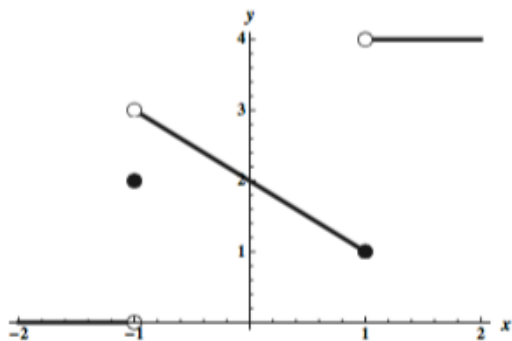
Sec. 2.2 pp. 65-68

16. Limit appears to be 2.

28. Many possible graphs



30. Many possible graphs



Sec. 2.3 pp. 76-77

28. -1

42. -5

52. $3a^2$