

# PRECALCULUS

**Tuesday, Apr. 30**

Handout—Limits in Graphical Form

Mandelbrot Set Part 1

Homework: Iteration Activity 1 & 2

*(circled problems)*

Sec. 17-1 pp. 920-921

21, 23, 25-27, 29, 33-37, 47, a, b

(a)  $\lim_{x \rightarrow 25} \frac{x-25}{\sqrt{x}-5}$       (b)  $\lim_{x \rightarrow 3} \frac{\sqrt{x+1}-2}{x-3}$

**Thursday, May 2**

Sec. 17-2 pp. 928-929

Find using the definition of the derivative:

23, 24, a, b

Find using the power rule:

28, 29, 39, c, d, e

(a)  $f(x) = 6x^3 - 2x + 5$       (b)  $f(x) = \frac{1}{x^2}$

(c)  $f(x) = 5x^{77} - x^{-5} + \frac{3}{x} - \frac{1}{2x^4}$

(d)  $f(x) = \sqrt[4]{x^7} - \sqrt[6]{x}$

(e)  $f(x) = \frac{3x^5}{10} - 8x^{-\frac{2}{7}} + 5x - 2$

Mandelbrot Set Part 2: Activity 4

*Math  
Matters  
Due*

**Monday, May 6**

Sec. 17-2 pp. 928-929

15, 16, 17, 18, 19, 32, 34, 36, 38, 41, a-e

(a)  $f(x) = (x^5 - 3x^4 + 4) \left( \frac{x^2+1}{x^3-2x} \right)$       (b)  $f(x) = [8x^{-5} + (x^2 - 3x + 4)^7]^3$

(c)  $f(x) = \frac{(x^4+5x)(3x^7-2x^2)}{6x^9+2x^3}$       (d)  $f(x) = \left( \frac{8x-5}{3x^2+2x^9} \right)^{10}$       (e)  $f(x) = (x^2 + 2)^4(3x^6 - 2x)^7$

Applications of Fractals

**Wednesday, May 8**

Sec. 17-4 pp. 942-943

3, 7, 9, 11, 14, 23, 25, a-e

(a)  $\int (2x^3 - 1)(x^2 + 5) dx$       (b)  $\int (4x^2 + 3)^2 dx$

(c)  $\int \left( \frac{3}{x^2} + \frac{5}{x^4} \right) dx$       (d)  $\int \left( \frac{t^5+2t^2-3}{\sqrt[3]{t}} \right) dt$       (e)  $\int \left( \frac{3x^3-6x^2+5}{x^2} \right) dx$

Sec. 17-5 pp. 948-949

11, 13, 25, 31, f, g

(f)  $\int_{-1}^2 \frac{3x+2x^4}{x^3} dx$       (g)  $\int_4^9 \frac{25x^3-1}{\sqrt{x}} dx$

Chaos Theory Part 1

**Friday, May 10**

Sec. 17-5 pp. 948-949

8, 9, 17, 21

Chaos Theory Part 2

Intro to Calculus Review

**Tuesday, May 14**

## Intro to Calc Test

*with a touch of fractals*

*Portfolios Due Thursday*