

Last update: Mon Apr 21 15:30:43 MDT 2008

`/m143.sp08/handouts143/t3_143_423/REVSTUFF/review_suggestions_3.tex`

1 This list is now in *final final* form.

2 Test #3 is

Wednesday
4/23/08.

3 The test will cover the material of Assignments #17 – #24, roughly, that is, sections 2.8, 3.1, 3.2, 3.6, 4.1, 4.2, and maybe some 4.3 material

The calculator part will revolve around 4.1: 77.

4 Topic List:

(i) You are supposed to know the formula for the **difference quotient**. And how to simplify a difference quotient. Here are some problems:

http://math.boisestate.edu/~kerr/143sp07/PDF143/DQprobs214_1.pdf

and an answer key:

http://math.boisestate.edu/~kerr/143sp07/PDF143/DQprobs214_2.pdf.

(ii) Apply sign charts and polynomial division to graphing rational functions.

3.6: 15-23 odds. Most of these have the x -axis as an asymptote. But two do not. One has a slant asymptote. Also 3.6: 45, 47, 49, 51

Here are some possibly helpful “asymptote” pages:

<http://www.purplemath.com/modules/asymtote.htm>

(iii) Be able to compute the inverse of a given function. Sometimes the computation will tell you that no inverse exists. Know how to recognize this.

(iv) Our page-166 table has been augmented and enhanced by the addition of the generic exponential-function graph and its corresponding logarithm graph. This gives more things to apply the section-2.4 transformations to.

4.1: 27, 29, 33, 35 and 4.2: 49, 51, 53. And page 383: 1-11 odds

(v) Given a factored polynomial, be able to use this polynomial’s intercepts, sign-change information, and end behavior to draw a rough graph of the polynomial (section 3.1).

3.1: 11, 13, 17, 19, 21 (cubic sidle)

- (vi) Know how to do polynomial long division, and know what you've got when you have finished the process.

3.2: 3, 5, 9, 11

We have used this to rewrite a quotient of polynomials in order to see how the quotient behaves relative to horizontal and oblique asymptotes.

3.6: 53 $r(x) = 3 + \frac{6x + 15}{(x - 3)(x + 1)}$ so that the curve approaches its horizontal asymptote from above on the far right, and from **below** on the far left.

- (vii) Synthetic division (also sometimes known as “synthetic substitution”) comes in handy, especially when we loop around to do the middle part of chapter 3.

3.2: 23, 27, 29, 33

- (viii) Know what $y = \log_A(x)$ means. Know how to write $y = A^x$ in terms of logarithms.

4.2: 3-13 odds.

- (ix) Given a function graph, determine if the function has an inverse, and, if it *does* have an inverse, find the graph, even though you don't know a formula for the function.

2.8: 69 and 2.8; 1, 3, 5. Also 235: 48(e).

5 Section 3.1: 23-35 odds

Purple-Page Test on page 238: problems 10 and 11.

Purple-Page Test on page 319: problems 1, 2, 9.

Purple-Page Test on page 385: problems 1, 2, 3a, 3c, 8a, 8b.

6 MATH-143 Test #2 for 10/26/05 has inverse problem 4c.

7 MATH-143 Test #3 for 11/18/05 has the following problems relevant to us at our current stage:

- 1 on compound interest.
- 3 on transformed hyperbolas, their graphs and inverses (Assignment #20).
- 7 on graphing a rational function (the 4/14/08 quiz goes after part of this).
- 8

8 The MATH-143 Test #2 for 11/4/02 problems relevant to us at our current stage:

- 1 (a compound-interest problem different from problem 1 in the 11/18/05 exam)

- 2 (find domain)
 - 3 (section-3.1 graph of a factored polynomial)
 - 4 (transformed hyperbola graph)
 - 7
 - 8 and 9 on rational-function graphs
- 9 The MATH-143 Test #3 for 12/6/02 problems relevant to us at our current stage:
- 1 (Is this a replay or not?)
 - 7 (like our fire-alarm problem)
 - 8 (transformed exponential graph)
 - 10 (finding an inverse)