

Outline for Math 141 Test I

Review using your class notes, quizzes, and the vocabulary lists in the chapter reviews. Do problems in the Chapter reviews and check your answers with those in the back of the text.

Take the chapter tests as though they are practice tests. Do not use your textbook to help answer any of the questions. After doing as many of the problems as possible, check your answers with those in the back of the text. Use this to help evaluate what topics you need to study further.

Chapter 1 – Problem Solving

1. **Four steps** in problem solving & nine **strategies** for making a plan in problem solving. Page 4.
2. Solve 2 **word problems** from chapter 1. Show all work, clearly state answer, and list strategies used.
3. “**Number magic**” – Section 1.1 Set A # 19 and Set B # 2 & 19 (and see Activity 1 in module 1 for sample problem and solution done with a variable or an “open box”).
4. **Sequences** -- Be able to extend a sequence, verbally describe the sequence and its pattern, write a formula for the sequence, and calculate a particular term of the sequence. Section 1.2 Set A # 2 & 9 also Section 9.3 Set A # 18-22, 27, & 28. Also study “Sequences” in Bb Module 1.

Chapter 2 – Sets, Whole Numbers, and Numeration Systems

5. Section 2.1 -- **Sets** -- Understanding of all basic concepts: subset, universal set, intersection, union, complement, set difference, Cartesian product, and use of Venn diagrams. (Try the problems in the Chapter 2 Review #1-5 and Chapter 2 Test # 1, 4, 7, 12.)
Use the Venn Diagram e-Manipulative:
http://nlvm.usu.edu/en/nav/frames_asid_153_g_3_t_1.html?open=instructions
6. Section 2.2 -- **Historical numeration systems**: Egyptian, Roman, Babylonian, and Mayan. For each numbersystem know the basic symbols and grouping used. Be able to convert from any of these systems to our standard base ten system and vice versa. (Try the problems Section 2.2 Set A # 7-11 and Chapter 2 Test # 1, 6, 7, 9, 13, 17.) See this website:
<http://mathforum.org/dr.math/faq/faq.roman.html>
7. Section 2.3 -- **Important features and advantages** of our **Hindu-Arabic system**. Know base ten and **other number bases**, counting and conversions. (Try the problems in Set A # 16-18, 20 and Chapter 2 Test # 8, 11.) Use the Multi-Base blocks e-Manipulative:
http://nlvm.usu.edu/en/nav/frames_asid_152_g_2_t_1.html
8. Section 2.4 – Understanding **functions**, including ways to represent them, domain and range, arithmetic and geometric sequences (see # 4 above.) Try the problems in Set A # 10-12, 17-21, 27 and Chapter 9 Test # 28, 29. Use the lessons on this website to learn more:
http://www.coolmath.com/algebra/Algebra1/14Functions/01_whatarethey.htm