Exam #2 Review

1. Review "Log of Class Activities" from Monday, February 11, through Monday, February 25.

2. Review the handout on "Partitions."

3. Review Homework #5 and #6 and the solutions.

4. Be able to do all of the problems that we did in class and for homework. The explanations are just as important as the final answers. You should be able also to solve variations of these problems.

5. You do not need to memorize the Eight Mathematical Practices. but you should be able to identify problems we have encountered whose solutions exemplify these practices. These are listed on pages 6–8 of `http://www.corestandards.org/assets/CCSSI_Math%20Standards.pdf`.

6. Be able to explain why the number of partitions of a positive integer n into exactly m parts equals the number of partitions of n such that the largest part has size m. Be able to explain why the number of partitions of a positive integer n into distinct odd parts equals the number of self-conjugate partitions of n.

7. Understand the base 2 (binary) place-value system, and how to convert numbers from base 10 to base 2 and vice versa.

8. Understand what the binary numbering system has to do with solving problems such as "How Many Questions," "Weird Multiplication I," and the "8 Card Trick,"

9. Understand how to use logic to eliminate possibilities, such as in "Watching TV," "Outdoor Barbecue" (which we did not do), "Smith, Jones, and Robinson," and "Five Houses."

10. Understand how to carefully use AND and OR to solve all of the problems in "Logical Implications in Algebraic Reasoning."

11. Understand how "thinking about thinking" assists in solving problems like "Consecutive Numbers" "How Many Children," and "Red and Green Hats" (which we did not do).