Prepare for the exam by carefully studying this list with reference to in-class activities, reading, homework, quizzes, and especially your notes. Strive to master concepts, explanations, and techniques for use in general; memorizing only the specific examples we’ve practiced is unlikely to be reliable or successful on the exam.

**Meaning of Fractions:**

1. Correctly spell the terms for top and bottom of a fraction.
2. Explain clearly what numerator, denominator represent in the part-of-a-whole meaning.
3. Know which part of a fraction cannot be zero; FULLY explain using the part-of-a-whole meaning.
4. Determine the fraction represented by a given diagram, including ones like 6-1A #6.
5. Draw a figure representing a given fraction, as in HW #1. Explain your reasoning.
6. Define “equivalent fractions”; find fractions equivalent to a given one, including like 6-1A #14.
7. State the FLF verbally; demonstrate/recognize it to create equivalent fractions/lowest terms.
8. Apply various techniques for ordering two fractions; choose the most effective.
9. Put a set of more than two fractions in order, including negative ones.
10. Explain what “denseness” means; demonstrate it when given two unequal fractions.

**Fraction Arithmetic:**

1. Add, subtract, multiply, and divide fractions using ordinary classroom algorithms.
2. Solve word problems requiring fraction arithmetic, as in text homework.
3. Explain why a common denominator (CD) is required for adding/subtracting.
4. Draw and label pictures to add/subtract without pre-determining a CD; explain how the numerator and denominator of the answer are shown.
5. Convert between mixed number and improper fraction notation, with and without the shortcut.
6. Add, subtract entirely in mixed numbers. Use the Distributive Property to multiply.
7. Draw and label diagrams to multiply fractions, including improper ones; explain how numerator, denominator are shown.
8. Demonstrate complete “pre-cancelling” in multiplying or dividing a set of fractions.
9. Use the definition of division to explain why (not how) “invert and multiply” works.
10. Draw and label pictures to perform division; explain how each digit in the answer is shown.
11. Estimate answers to computations; show $\approx$ notation in working to create estimations.
12. Correctly spell the names of parts of number sentences.
13. Create number sentences that have given numbers as particular parts, as in HW/Activity.

For explanations, I grade mathematical correctness, verbal clarity, AND conceptual thoroughness.

Bring a non-cell phone calculator (no text-based memory) for the exam.