Final exam topics:

From number and operations:

1. Bar diagrams for addition, subtraction, multiplication and division
2. Direct modeling diagrams for multiplication and division (small numbers)
3. Array diagrams for multiplication
4. Explaining the commutative law
5. Explaining the distributive law
6. Array diagrams on a provided grid for 2-digit multiplication
7. The expanded algorithms for multi-digit addition, subtraction and multiplication
8. The scaffolding algorithm for division
9. The lattice algorithm for multiplication
10. Distinguishing and writing multiplication problems, partitive division problems and measurement division problems.
11. Division word problems with remainders
12. Analyzing student work (errors and algorithms)
13. Explaining steps in the standard algorithms and how you might model them with base 10 blocks.

From geometry:

1. Finding symmetry lines and rotational symmetry angles
2. Finding the effect of and describing transformations
3. Properties of geometric shapes
4. Venn diagrams with geometric shapes
5. Interior angle sum

From sets and algebraic thinking:

1. Order of operations
2. Finding and geometrically explaining formulas for a geometric growing pattern
3. Finding the number of repetitions needed in a growing pattern to get a given output (see beads problem on first exam)
4. Solving problems with pairs of information (like pigs and chickens problems)