Ratio problems: solving informally name:_____

For each of these problems, solve it by deduction (working backwards) if you can, and by guessing and checking if you get stuck. Check your answers by making sure they work when stepping forward through the problems. Label quantities, and explain why your steps make sense.

1. There were 1/3 as many boys as girls playing at the park in the morning. Two more boys and two more girls came to the park. Now there are 20 girls at the park. How many boys are at the park now?

2. The ratio of fiction to non-fiction books on the new-books shelf at the library was 2:3. Sandra checked out 1 fiction and 2 non-fiction books from the shelf. Now there are 22 non-fiction books on the shelf. How many fiction books are on the shelf?

3. Ms. Jensen had twice as many pencils as pens. Mr. Anderson returned a pen he had borrowed, and the children in her class borrowed all but 3 of her pencils. Now she has 10 total pens and pencils. How many pencils did her students borrow?

4. The bakery had a bunch of donuts for sale. Three-fourths of the donuts were glazed, and the rest had chocolate frosting. A customer came in and bought half of the donuts: half of the glazed donuts and half of the chocolate donuts. Now there are 18 glazed donuts for sale. How many chocolate donuts are left?

5. On Monday, Kelly counted the plants that sprouted in the garden on Monday. There were three-fourths as many bean sprouts as carrots. On Friday she counted the sprouts again. This time there were twice as many bean sprouts as there had been on Monday, and there were 2 more carrot sprouts than there were on Monday. On Friday, there were 14 carrot sprouts. How many bean sprouts were there on Friday?