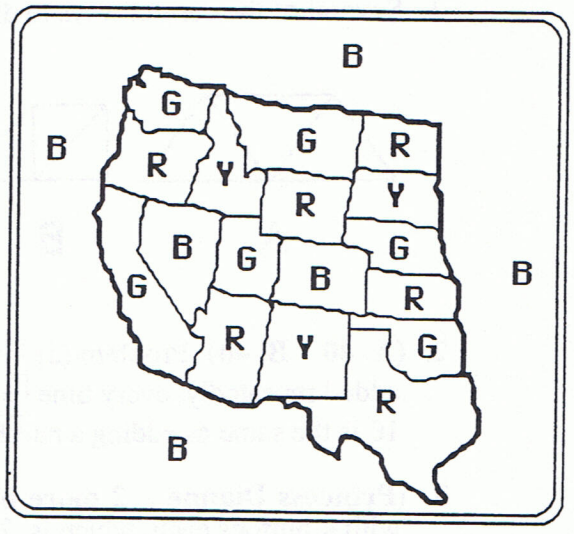
Commentary

Earth, XX.

1. **(To the right.)** This problem is the famous "four-color problem" from the ancient history of mathematics. For hundreds of years, mathematicians thought that any such map could be colored in four colors or less, but no one could prove it. The solution was finally reached in the mid-80s, but map-coloring exercises such as this one are still enjoyable for students and adults of all ages. One solution is given to the right:



2. **(>)** The number sentence is "38 is greater than 35."

3. **(a. 6; b. 2; c. 5)** Students might put the digits from 1 to 9 on index cards, and first try each riddle with a card pulled at random, then move to a higher or lower digit from the index-card pile if that guess didn't work. This would be a concrete introduction to the *guess-check-revise* strategy.

4. **(30)** The answer may be obtained by adding 5 six times. Students may want to draw a picture of the 6 flower pots, with 5 flowers in each, and simply count.

5. **(167, 289, 305, 430, 521)** This answer is found by place value. Since each number has a different value in the largest place, the hundreds, students only need to look at the hundreds place.

6. **(382, 328, 832, 823, 238, 283)** The numbers may be listed in any order. However, students should be encouraged to *organize* their work in such cases. For example, this list is organized by "make all the numbers you can with 3 as the first digit, then move to 8 as the first digit, then to 2 as the first digit, as the digits appeared in the problem."

7. **(11)** To solve this problem, all you have to do is add 3 years to Ronnie's age to get Chauncey's age, 9. Then add 2 years to Chauncey's age to get the age of Quartasha. Some students might want to simply hold out 6 fingers for Ronnie, add 3 more fingers for Chauncey, and then 2 for Quartasha, and count.

8. **(Mae)** The first clue eliminates Sabrina. The second clue eliminates Jenny. The third clue eliminates Dee. Therefore by *process of elimination*, Mae is the answer. Notice that Mae fulfills all three conditions.