Commentary

Jupiter, XXIII

1. **(3rd from the left is circled.)** Students with good spatial visualization can find the right card by imagining the turns. Others might draw the figure on a card or sheet of paper, and make the turns.

2. **(296 pounds)** 310 - 14 = 296.

3. **(6)** One way to begin the problem is to write down the room numbers 12, 14, and 16, and *guess-check-revise*. If there are 2 friends in each room, then there will always be four friends in the other two rooms.

4. **(7 kids, 4 boys and 3 girls)** Sam and Suzie are included in the number of brothers or sisters. One way to begin is to write list "B" and "G" for boys and girls, and *guess-check-revise*. The number under B must be more than 1 since Sam has at least one brother, making 2 boys at least. So try 2 for B, which means Sam has 1 sister, giving Suzie 0 sisters. But this contradicts what is given, so revise the guess under B to 3. This gives Sam 2 brothers and 2 sisters, and Suzie 1 sister. But then Suzie has 3 brothers, which is not twice as many as her 1 sister. Revise the guess under B to 4, giving Sam 3 brothers and 3 sisters, and Suzie 2 sisters and 4 brothers. This meets the conditions of the problem.

5. **($8.78)** He spent a total of $47.87 plus $3.35 in tax. This totals $51.22. Subtract $51.22 from $60.00.

6. **(a. 6; b.**

Age Group	% Participation ;
7-11	40%
12-17	37%
18-24	10%
25-34	9%
35-up	4%

c. The older you get, the less likely you are to be in roller hockey.)

7. **(74)** Students can use the second clue and the last clue to list the numbers from 71 to 79. The first clue eliminates the odd numbers, leaving 72, 74, 76, and 78. But 72 and 76 are both divisible by 4, and 78 is divisible by 3. Hence by process of elimination, 74 is the answer.

8. **(8)** Students should try to find the weight of a book without manipulating the variable x in the equation. They can reason that the 4 books alone must contribute 32 ounces to the weight on the left, since those books plus 5 ounces weigh 37 ounces. Then if 4 books weigh 32 ounces, each book must be 8 ounces.