Commentary

Jupiter, II

1. **(2 years)** One-half inch per month means 1 inch every 2 months. Students can therefore count month's "by twos" until they get to 12 inches. The count of 24 months is 2 years.

2. **($1.50)** Students at this grade level know intuitively that 50% is 1/2, and they can find 1/2 of dollar amounts, usually without any actual computation. 1/2 of $6 is $3, and 1/2 of $3 is $1.50.

3. **(104, 68, 50)** The unusual thing about this pattern is that it's much easier if you start at the right end, and work to the left. You can see that you are adding 9 each step.

4. **(45)** Students will likely use a calculator to solve this problem. A few might notice that the sum of the first n counting numbers is $n \times (n + 1) \div 2$. Therefore the problem becomes finding the first or smallest n such that $n \times (n + 1) \div 2 \geq 1000$.

5. **(6:12 pm)** This problem involves elapsed time. Students can add 1:45 and 4:27, but they must remember that they aren't in the decimal system. They should get 5:72, and since 72 minutes is 1 hour and 12 minutes, 5:72 can be rewritten as 6:12.

6. **(Maria: 10; Patsy: 8; Colleen; 9; Kenyada: 11)** Students might make a list, or they may make name cards and act the problem out.

7. **(20 spaces ahead)** Each color should come up about 1/3 of the time. However, the orange moves and the blue moves cancel each other out, leaving about 1/3 of the time moving ahead 2 spaces. 1/3 of 30 spins is 10 spins, and at 2 spaces each move, you would be ahead 20 spaces.

8. **(She was wrong. x = 33 grams)** Students can see intuitively that 1 block can be removed from both sides of the balance scale, leaving 3 sharpeners and 1 gram to balance 100 grams. Then the 3 sharpeners must weigh 99 grams, and then each would weigh 33 grams. x is used simply to introduce the idea of an unknown quantity as a variable.