Commentary

Earth, III

1. **(4)** The bag needs to have four apples in it so that the scales will have the same weight on both sides. This assumes that all apples weigh the same. This problem is an important one to lay a concrete foundation for algebraic thinking.

2. **(8)** The student may think *what number, plus 9, equals 17.* Eight + 9 = 17 is part of a family of facts which also include: 9+ 8 = 17, 17 - 9 = 8, and 17 - 8 = 9.

3. **(a. 3 ; b. Pirates; c. 3)** The Hornets won 5 games; the Pirates won 4 games; the Eagles won 2 games; and the Bears won 1 game. For part a, the Hornets won 5 games and the Eagles 2 games, which is 3 games more. For part b, the Pirates won two more games than the Eagles. For part c, the student might want to get 12 pennies and move them around until he or she gets the same number in 4 different piles. If the student "even outs" 12 into 4 piles, he or she will get 3 wins; or said a different way: 12 ÷ 4 = 3. This is a concrete introduction to the concept of getting an *average*.

4. **(a. 44; b. 32; c. 52)** The student may use "guess- check-revise" to find the answer by repeatedly trying different numbers for each box until they get one which works. Some students might realize that they can solve a different problem than the one given. For (a), they might solve by adding: 23 + ☐ = 67; or they might solve by subtracting: 67 - 23 = ☐. Problems (b) and (c) can also be worked by solving a different problem.

5. **($1.28)** The student subtracts the value of the coupon, 25¢, from the cost of the apple butter, $1.53, giving $1.28.

6. **(4)** Purchasing 3 boxes of markers would provide 27 markers since 9 + 9 + 9 = 27. One more box is needed to give one marker per student, but 7 markers would be left over.

7. **(24)** The two insects would have 6 + 6 or 12 legs to offer to the collection. The three frogs would have 4 + 4 + 4 or 12 legs to add also. Therefore there's a total of 24 legs. This is a multistep problem which students can solve by drawing a picture of the frogs and insects, and counting legs. Or they might use the picture given in the problem, and count the legs that way.