Commentary

Earth, XIV

1. **(8)** If one cube weighs 4 grams, 2 cubes weigh 8 grams. The scale reads 16 grams, so the can (cylinder) must weigh 8 grams.

2. **(a. 5; b. 18; c. 49)** Students may find the missing factor by asking themselves "what number could the box be covering so that the sentence is true. They would try different numbers and check to see if they are correct. Some students might turn the problem into a different but related problem, addition to subtraction or vice-versa. For (a), they might find 11 – 6; for (b), 28 – 10; for (c), 44 + 5.

3. **(C. 4 inches)** This problem might be solved with only visual estimation skills, but may also be solved by physical means. A student might spread their fingers apart the same distance as the pencil is long, and then see that they can put their outstretched fingers about two times across the sheet of paper. Or, they might mark the pencil's length on another sheet of paper, and move the marks in the same manner as with their fingers. The pencil is about one-half the width of the paper.

4. **($13)** I L O V E M A T H
   $1 + $2 + $1 + $2 + $1 + $1 + $1 + $2 + $2 = $13

5. **(5:00 p.m.)** Students need to know how to read and write time to the half hour, and that 1/2 hour is 30 minutes. They might proceed by adding the 2 1/2 hours in "chunks." For example, they might start at 2:30, and add 1 hour to get 3:30, then another hour to get 4:30, then the last half hour to get 5:00.

6. **(a. 5; b. 7; c. 5)** Part (a) involves reading the chart correctly, then subtracting Lisa's 2 points from John's 7. Part (b) involves adding the player's scores for each team, and then subtracting 12 from 19. Part (c) involves thinking about the second turn, and subtracting from that total what Suki had on the first turn.

7. **(14 cubes)** Again, visual skills are necessary for this problem. Students should realize that they are looking at a 3-dimensional picture. There are 9 cubes on the base, 4 in the middle, and one at the top.

8. **(SELL)** 11004 – 3269 = 7735, which, turned upside down, spells "SELL".