Commentary

Mars, XVIII

1. **(8 minutes)** This is a simple subtraction problem: 63 - 55. Some students may solve it by *counting up* from 55 to 63.

2. **(130)** A 3-digit number is called for, and the smallest such would have a 1 in the hundreds place, and a zero in the units place.

3. **(15)** Most students will trace the 12 ways on the map itself. A more advanced way to solve the problem would be to label each move to the left as L, and each move down as D. Then the student must make 2 L's and 4 D's to get to school, and they can come in any order. So the question is: How many ways can you arrange 2 L's and 4 D's. The ways are shown below:

   LLDDDD; LDLDDD; LDDLDD; LDDDLD; LDDDDL;
   DDDDLL; DDDLDL; DDLDDL; DLDDDL; DLDLDD
   DDDLLD; DDLLDD; DLLDDD; DLDDLD; DDLDLD

4. **(a. 15L; b. 1mL; c. 70mL)** The problem tests the number sense of students. They might need to be reminded that a mL of water is about a drop; a L of water is about half as big as a 2-liter bottle of soda.

5. **(30)** Work backwards by starting with what is known, the number of science books--4. Then find from that the number of music books--8. From that we know the number of history books--6, and then the number of art books--12. The total is 30.

6. **(15)** 1 large; 5 small; 4 rectangles made of 2 small; 3 rectangles made of 3 small; 2 rectangles made of 4 small.

7. **(93)** Give the problem 19 + 74 =

8. **(right angle - 90 degree angle: 3:00 or 9:00)** Check individually.
   (acute angle - less than 90 degrees) Check individually.
   (obtuse angle - more than 90 degrees) Check individually.

9. **(6)** In the top left picture, 3 apples balance 2 tomatoes. Therefore 3 apples can substitute twice for the 4 tomatoes in the right hand picture. In the bottom picture, 6 apples then balance with 1 cup of soup.