

Commentary

Earth, II

1. (5) There are four small squares and one large square. Students may enjoy doing other problems of this nature, in which they find figures within other figures. For example, how many triangles are in this figure (3):



2. (9) $9 + 1$; $8 + 2$; $7 + 3$; $6 + 4$; $5 + 5$; $4 + 6$; $3 + 7$; $2 + 8$; $1 + 9$.
3. (12¢) Two nickels and 3 pennies is 13¢, and the difference between 13¢ and a quarter is 12¢. Some students may have trouble with this problem if they don't know the value of the coins.
4. (◆) The pattern which repeats is ■ ◆ ◆ ♥ ♥ ♥. The fourth repetition of this pattern has started, and the first two figures are shown, leading to the third in the sequence as the one to follow.
5. (a. 559; b. 850; c. 1,272) Give a star for a, b, and c separately.
6. (One possible answer is shown; there are other possible answers.) Students may enjoy knowing that this is related to one of the "50 famous unsolved problems in mathematics" of the 80's. The problem was that everyone thought that such a map could be colored in four colors or less, so that no two boundaries the same color touched except at a point, but no one could prove it. Eventually the problem was solved, but for years and years, mathematicians enjoyed coloring maps like this, looking for an exception to the conjecture.

