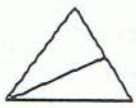
Commentary

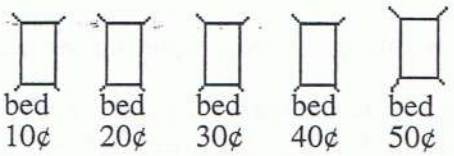
Venus, VIII

1. The outside figures which repeat are square, oval, then triangle. Also, there are two lines in the first set of three such figures, then one line slanting down from left to right in the second set, then one line slanting up from left to right in the third set. The last figure is shown to the right.



2. **(One clock should show 2:30 o'clock.)** Students have a choice in this problem of the way they should answer. A student who knows both ways of recording time should receive an extra, bonus star.

3. **(5 times)** Students can draw a picture to solve the problem. They should be encouraged to count by tens also.



4. **(4)** Students could write all the numbers from 1 to 40, and select those with a 7. Some will be able to do this problem mentally, by thinking 7, 17, 27, 37, perhaps by counting out loud.

5. **(a. > b. = c. <)** Most students will be able to add the amounts of money on each side mentally. If not, they can use a calculator. The difficult part, but important, is for them to write down or remember what sum they get for each side, until they have computed the amount on both sides, and can compare.

6. **(15)** Counting all the days from December 17 to 31 is the most likely way that students will find this answer. A calendar presents a lot of patterns for students to look for, and might be useful in other math activities.

7. **(17, 20, 31)** It is interesting and instructive for students to see a model of a function machine, of which this problem is one type. They will enjoy having a physical model of such a machine, as shown below, with a dial that really turns. Then they can play a game with each other, with one making up a rule (the rule setter)and "setting the dial," and the other giving **In** numbers. The rule setter thengives the **Out** number, and they record this on a chart. After the rule is discovered, the roles are reversed.

   For an extension of this situation, once the rule is discovered, have the student give an **Out** number, and the other student try to decide what number went **In**. Do not stress reversing the rule -- allow them to decide on the **In** number simply by intuition.