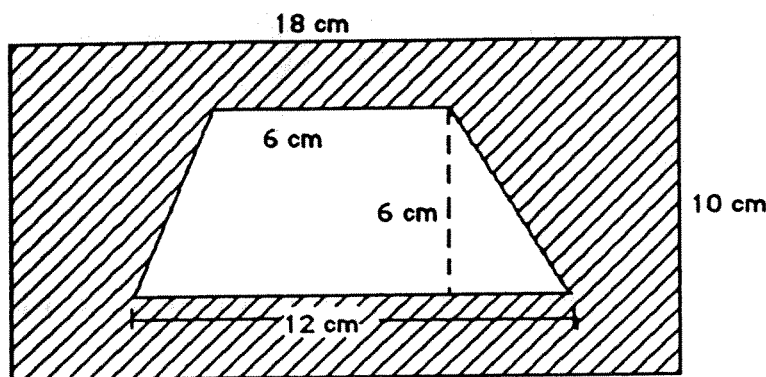# MATH SUPERSTARS – 6
Uranus, XXII

Name: _____

(This shows my own thinking.)

★★ 1. What is the difference between the sum of twice 50 and twice 7, and twice 57?

Answer: _____

★★★ 2. It costs $1 per cm² to add gold plating to a surface. What will it cost to gold plate the shaded region below, which is a rectangle with a hole cut in it?

18 cm

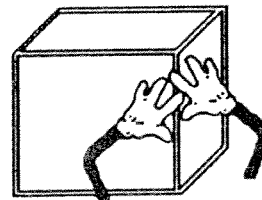**6 cm**

6 cm

12 cm

10 cm

Answer: $ _____

★★ 3. A friend tells you that she is thinking of two 2-digit numbers and gives you the following clues. Find the numbers your friend is thinking of.

    a. The numbers have the same digits, only reversed in position,
    b. The sum of the digits is 8 in each number, and
    c. The difference between the two numbers is 36.

Answer: _____ and _____

★★★ 4. A cube has a volume of 64 cubic inches. If you had to attach "string ribbon" to all of the edges of this cube, how many inches of ribbon would you need?
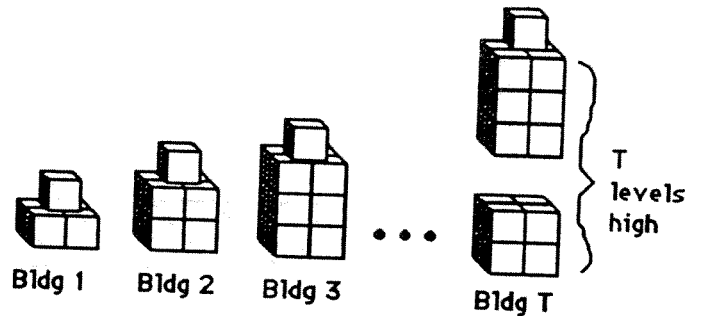
Answer: _____

57

★★ 5. Try adding these numbers mentally. Look for numbers that go together naturally to give 100, and add them first.

$$45 + 25 + 15 + 55 + 75 =$$

Answer: _____

★★★ 6. Consider the pattern of buildings below, made from blocks

a. How many blocks would the 4th building require? _____

b. How many blocks would the 5th building require? _____

c. How many blocks would the 25th building require? _____

Bldg 1   Bldg 2   Bldg 3   Bldg T

T levels high

★★ 7. How many blocks would it take to make building T in the pattern above, where T can be any whole number?

Answer: To make building T, I need this many blocks: _____

★★★ 8. In the *Stamps are Beautiful* stamp collecting club, 21 members have stamps from England, 19 members have stamps from Germany, and 11 members have stamps from Australia. Some of these same members have stamps from more than one country. Six have stamps from England and Germany, 4 have stamps from Germany and Australia, and 2 have stamps from England and Australia. No member has stamps from all three countries. How many members are in the *Stamps are Beautiful* stamp club? (HINT: Use the Venn diagram below.)

Answer: _____

England

Australia

Germany