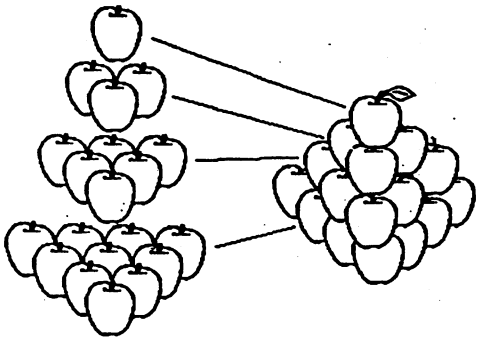
SUNSHINE MATH - 8
Pluto, XXVI

Name: _____

(This shows my own thinking.)

★★★★ 1. Mr. Nielsen, a grocer, stacks all of his apples in triangular pyramids. Each layer of apples is in the shape of an equilateral triangle, and the top layer is a single apple.



a. How many apples are in a stack four layers high? _____

b. How many apples are in a stack five layers high? _____

c. How many apples are in a stack six layers high? _____

d. How many apples are in a stack ten layers high? _____

★★★★ 2. Every day, I count the fleas on my dog. The first day he had 1 flea, the second day 3, the third day 5, then 7, then 9, and so on.

a. How many fleas were there on the 100th day?

Answer: _____

b. Write an algebraic expression for the number of fleas on the *nth* day:

Answer: _____

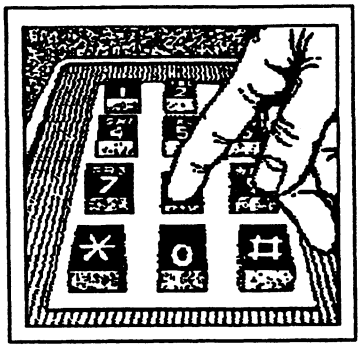
★ 3. 1×10^{-4} meters is the thickness of a piece of paper. Write this measurement as a decimal.

Answer : _____ meters

★ 4. What fraction of the letters in the word *multiply* are also in the word *product*?

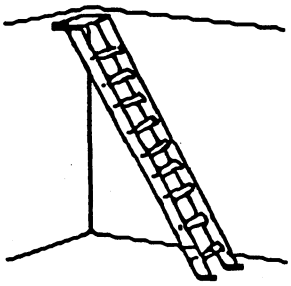
Answer : _____

★★★★ 5. Telephone area codes have three digits. The first digit must be chosen from 2 through 9. The second digit must be a 0 or a 1. The third digit cannot be 0. How many area codes are possible?



Answer : _____area codes

★★ 6. A 25-foot ladder is placed against the top of an inside wall 20 feet high. How far out from the wall will the foot of the ladder be placed?



Answer : _____ feet

★★ 7. Five identical helium balloons are shown on the scale. They have negative weights since they pull up. Use n to stand for the weight of the newspaper.

a. Write an equation for this situation.

Answer: _____

b. Intuitively, find the weight of the newspaper.

Answer: _____