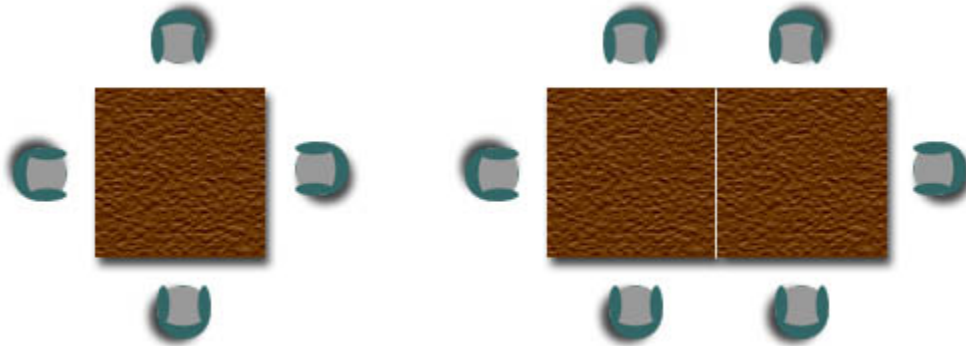


Arithmetic Sequences Problem

A restaurant has square tables that seat four people. When two tables are placed together, six people can be seated (see the diagram below).



If 6 square tables are placed together to form one long table, how many people can be seated?

If 20 square tables are placed together to form one long table, how many people can be seated?

What is the relationship between the number of tables and the number of people that can be seated? Complete the following table then write an algebraic expression that represents this relationship.

Number of tables							
People Seated							

Algebraic Expression: _____

If 1000 square tables are placed together to form one very long table, how many people can be seated?

TOOTHPICK PROBLEM

- 1.** The drawing below shows "trains" of triangles made from toothpicks.



Number of toothpicks	3	5	7
Number of triangles	1	2	3
Perimeter of train	3	4	5

- a.** Write an equation for the relationship between the number of triangles in a train and the perimeter of the train. Check your equation by testing it on the next few trains in the pattern.
- b.** Write an equation for the relationship between the number of triangles in a train and the number of toothpicks.

- 2.** Repeat question **1** for trains of squares.



- 3.** Repeat question **1** for trains of hexagons.

