Algebra I
Notes 1.1 Representing Number Patterns

Objectives:
- Find the pattern in a sequence.
- Generate and display sequences.

Problem Statement:
If you are in a room with "x" number of people, how many different two-person conversations are possible?

Given: 2 people
How many different two-person conversations are possible?

Diagram: Answer: _____

Given: 3 people
How many different two-person conversations are possible?

Diagram: Answer: _____

Given: 4 people
How many different two-person conversations are possible?

Diagram: Answer: _____

Given: 5 people
How many different two-person conversations are possible?

Diagram: Answer: _____

Organize your data into a chart. Identify a pattern to complete the chart.

number of people	0	1	2	3	4	5	6	7	8
number of conversations									

Describe the pattern: _____

_____

Is the following conjecture **true** or **false**? Use your data to support or disprove.

The sum of different two-person conversations among "x" number of people is the sum of the numbers from 1 to x ?

$1 + 2 + 3 + \ldots + x$ = number of conversations?

Complete these statements.

The number of different two-person conversations among "x" number of people is

_____

The number of different pairings among "x" number of things is

_____

Use the above statements to answer these questions.

How many different two-person conversations are possible among 9 people? _____

How many different basketball games are possible among 10 teams? _____

_____ __