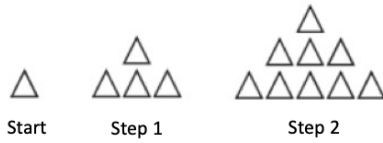## Math 9: Linear Relations Quiz #1

Full credit will only be awarded for all work shown in a neat and organized manner.

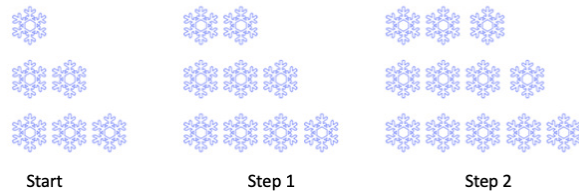1. For each pattern below, state whether it is linear or non-linear and **explain why**

   a. *Number of triangles*

   b. *Number of trees*

2. For the pattern below:

   a. Write an equation for the number of snowflakes (*t)* that depends on the number of steps (*n*)

   b. Check your equation to show it is correct

   c. Determine the number of snowflakes in step 43

3. Draw a pattern with equation: t = 6 – 2n

Start   Step 1   Step 2

4. The cost to rent a bus for a school field trip is a fixed price, plus a cost per student on the bus. A bus company advertises the following prices on their website:

Number of Students (n)	10	20	30
Cost (C)	85	115	145

    a. What is the cost per student?

    b. Write an equation relating the cost (C) to the number of students on the bus (n) and check your equation to show it is correct

    c. How much would it cost to rent a bus for 44 students?