$\qquad$
Date: $\qquad$ Block: $\qquad$

1. Determine whether 215 is a term value of each sequence below. That is, can't(n) $=215$. If so, which term is it?
a. $t(n)=25+5(n-3)$
b. $t(n)=-8+2 x$
c. $t(n)=3 x+20$
2. Determine whether 447 is a term value of each sequence below. That is, can't( $n$ ) $=447$. If so, which term is it?
a. $t(n)=10 n+12$
b. $\quad t(n)=16-3 n$
c. $t(n)=5-6(n-2)$
3. Determine whether 633 is a term value of each sequence below. That is, can't( $n$ ) $=633$. If so, which term is it?
a. $t(n)=5 n+7$
b. $\quad t(n)=3+3(n+3)$
c. $t(n)=9-8 n$
4. Find the sequence generator for each sequence listed below. Write an equation for the $n^{\text {th }}$ term in each sequence in recursive and explicit form, keeping in mind that the first term of each sequence is $t(1)$.

5, 10, 15... Generator: $\mathrm{t}(0)=\quad$ Recursive Eq.: Explicit Eq.:

3, 6, 9... Generator: $\mathrm{t}(0)=\quad$ Recursive Eq.: Explicit Eq.:
$1,-4,16,-64 .$.
Generator:
$t(0)=$
Recursive Eq.:
Explicit Eq.:

1, 1, 2, 3, 5 ..
Generator:
$t(0)=$
Recursive Eq.:
Explicit Eq.:

512, 256, 128... Generator: $\quad \mathrm{t}(0)=\quad$ Recursive Eq.: Explicit Eq.:
3. Determine if the following graphs/tables define a sequence that is arithmetic, geometric, or neither. Explain how you know by writing the sequence and labeling the generator (for each).
a.

b.

| Week | Population |
| :---: | :---: |
| 1 | 300 |
| 2 | 450 |
| 3 | 675 |

C.


Sequence: $\qquad$ Sequence: $\qquad$ Sequence: $\qquad$
Generator: $\qquad$ Generator: $\qquad$ Generator: $\qquad$

## 4. Some north Salem students made a table that had of the first 4 bounces, however they can't read their writing for the height of the first bounce. So they have the following incomplete table

a. What is the rebound ration of the ball?
b. If the ball is dropped from 300 cm , how high will it's rebound be?

| N <br> (bounce number) | $\mathrm{T}(\mathrm{n})$ <br> Rebound height |
| :---: | :---: |
| 1 |  |
| 2 | 70.10 |
| 3 | 36.45 |
| 4 | 18.96 |
| 5 |  |

c. From the table, what would the initial drop height have been? In other words $t(0)=$ $\qquad$ $?$
d. Suppose the ball was dropped from a 15 meter roof. How high would the following bounces be.
$1^{\text {st }}$ $\qquad$ $2^{\text {nd }}$ $\qquad$ $3^{\text {rd }}$ $\qquad$
e. If you made an equation for the situation, would the equation ever indicate that the ball would stop bouncing, and how does this compare with your physical experiences in this situation?

