Analyze the arithmetic sequences and find the next three terms (if it is a picture just find the next term). State the common difference, and then write the recursive and explicit formulas. If the sequence is not arithmetic state why (you do not need to find anything if it is not arithmetic).
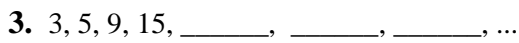
1.

Arithmetic?   Yes   No

If not, why?

$d =$

Explicit Formula:

Recursive Formula:

2. -4, -7, -10, -13, _____, _____, _____, ...

Arithmetic?   Yes   No

If not, why?

$d =$

Explicit Formula:

Recursive Formula:

3. 3, 5, 9, 15, _____, _____, _____, ...

Arithmetic?   Yes   No

If not, why?

$d =$

Explicit Formula:

Recursive Formula:

4. 7, 9.3, 11.6, 13.9, _____, _____, _____, ...
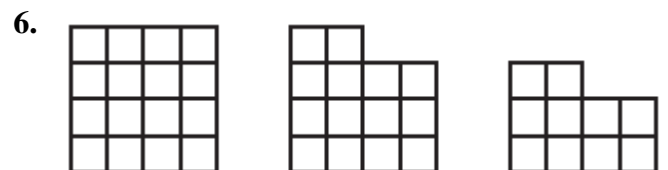
Arithmetic?   Yes   No

If not, why?

$d =$

Explicit Formula:

Recursive Formula:

5.

Arithmetic?   Yes   No

If not, why?

$d =$

Explicit Formula:

Recursive Formula:

6.

Arithmetic?   Yes   No

If not, why?

$d =$

Explicit Formula:

Recursive Formula:

Given an arithmetic sequence, find the a_n term.

7. 6, 11, 16, 21, 26, …..

8. -3, -5, -7, -9, -11, …..

$a_{97} =$

$a_{48} =$

9. 45, 18, -9, -36, ….

10. 7, 9.489, 11.978, 14.467, …

$a_{67} =$

$a_{192} =$

Given an arithmetic sequence and a_n find n.

13. 2.1, -3.9, -9.9, -15.9, …..

14. 4, 12, 20, 28, 36, …

$a_n = -213.9$

$a_n = 828$

$n =$

$n =$

15. A cafeteria in a school has square tables where students can eat lunch in groups of four. If six students want to eat lunch at the same table, then they can push two tables together to accommodate their group. Larger groups can be handled by joining together more tables in a straight line.

    a.   Draw the first four pictures representing this sequence (the first two are done for you).

    b.   Construct a sequence that models this situation. Is it arithmetic? Why or why not?

    c.   Write the explicit and recursive formulas for the sequence.

    d.   Find the value of the 32nd term of the sequence. What does this term tell us?

    e.   Find the term of this sequence that has a value of 324. What does this term tell us?