Algebra 2 Name_____

9.2 - Arithmetic Sequences

Date_____ Period____

ıd the missing term or terms in each arithmetic sequence.

1) ..., 6, ___, 14, ...

2) ..., 6, ___, ___, ___, ___, ___, 42, ...

3) ..., −38, ___, ___, ___, ___, ___, 1162, ...

4) ..., −38, ___, ___, ___, 362, ...

Determine if the sequence is arithmetic. If it is, find the common difference and the term named in the problem.

5) −2, 8, 18, 28, ...
Find a_{29}

6) $\frac{4}{5}, -\frac{13}{15}, -\frac{38}{15}, -\frac{21}{5}, \ldots$
Find a_{28}

7) $\frac{11}{8}, \frac{15}{8}, \frac{19}{8}, \frac{23}{8}, \ldots$
Find a_{32}

8) −38, −68, −98, −128, ...
Find a_{33}

Find the recursive formula.

9) −12, −22, −32, −42, ...

10) 1, −9, −19, −29, ...

11) −36, −27, −18, −9, ...

12) −24, 6, 36, 66, ...

Given the first term and the common difference of an arithmetic sequence find the explicit formula.

13) $a_1 = 25,\ d = 7$

14) $a_1 = -19,\ d = 4$

15) $a_1 = 37,\ d = -3$

16) $a_1 = 13,\ d = -10$

Given the explicit formula for an arithmetic sequence find the term named in the problem.

17) $a_n = -36 + 9n$
Find a_{32}

18) $a_n = 37 - 7n$
Find a_{26}

19) $a_n = -4 + 2n$
Find a_{33}

20) $a_n = -11 - 3n$
Find a_{34}

Given two terms in an arithmetic sequence find the common difference and the term named in the problem.

21) $a_{20} = -113$ and $a_{34} = -211$
Find a_{29}

22) $a_{20} = 173$ and $a_{33} = 303$
Find a_{25}

23) $a_{13} = -114$ and $a_{38} = -339$
Find a_{35}

24) $a_{20} = 3808$ and $a_{33} = 6408$
Find a_{29}