Secondary Math I Name_____

WS 5-4 - Explicit and Recursive Formulas

Date_____ Period____

Find the common difference and the recursive formula.

1) –38, –41, –44, –47, ...

2) –32, 168, 368, 568, ...

3) –36, –40, –44, –48, ...

4) 23, 25, 27, 29, ...

5) –28, 172, 372, 572, ...

6) –36, –26, –16, –6, ...

Find the common difference and the explicit formula.

7) 12, 22, 32, 42, ...

8) –33, –13, 7, 27, ...

9) –29, –37, –45, –53, ...

10) 31, 39, 47, 55, ...

11) 0, –9, –18, –27, ...

12) –20, –13, –6, 1, ...

Find the common ratio and the recursive formula.

13) –4, –16, –64, –256, ...

14) –2, –8, –32, –128, ...

15) 2, 10, 50, 250, ...

16) 1, –4, 16, –64, ...

17) –4, –8, –16, –32, ...

18) –3, –15, –75, –375, ...

Find the common ratio and the explicit formula.

19) 1, 4, 16, 64, ...

20) 3, 9, 27, 81, ...

21) –4, –20, –100, –500, ...

22) 4, 8, 16, 32, ...

23) –2, 10, –50, 250, ...

24) 1, –6, 36, –216, ...

Given the recursive formula for an arithmetic sequence find the common difference and the explicit formula.

25) $a_n = a_{n-1} - 3$
$a_1 = 34$

26) $a_n = a_{n-1} - 5$
$a_1 = 6$

27) $a_n = a_{n-1} + 4$
$a_1 = -36$

28) $a_n = a_{n-1} - 5$
$a_1 = 15$

Given the explicit formula for an arithmetic sequence find the common difference and the recursive formula.

29) $a_n = 30 - 5n$

30) $a_n = 17 - 4n$

Given the recursive formula for a geometric sequence find the common ratio and the explicit formula.

31) $a_n = a_{n-1} \cdot -5$
$a_1 = 2$

32) $a_n = a_{n-1} \cdot 5$
$a_1 = -2$

33) $a_n = a_{n-1} \cdot 3$
$a_1 = -1$

34) $a_n = a_{n-1} \cdot -4$
$a_1 = 1$

Given the explicit formula for a geometric sequence find the common ratio and the recursive formula.

35) $a_n = 3 \cdot (-2)^{n-1}$

36) $a_n = 4 \cdot (-2)^{n-1}$

Find the term named in the problem.

37) 8, 13, 18, 23, ...
Find a_{30}

38) –6, 3, 12, 21, ...
Find a_{39}

39) –2, –4, –8, –16, ...
Find a_{10}

40) –4, 12, –36, 108, ...
Find a_{10}