Honors Algebra 2 **Name _____**
WS12.3 **Hour _____**

SHOW EVIDENCE OF YOUR THOUGHT PROCESS. YOUR SHOWN PROCESS SHOULD "SPEAK" TO ME. ☺

Determine if the sequence is arithmetic. If it is, find the common difference and next term.

1. 35, 32, 29, 26, ...

2. −3, −23, −43, −63, ...

3. −34, −64, −94, −124, ...

4. 9, 14, 19, 24, ...

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

5. $a_n = -11 + 7n$
   Find a_{34}

6. $a_n = 65 - 100n$
   Find a_{39}

Given the 1st term & common difference of an arithmetic sequence, find the 1st 5 terms & explicit formula.

7. $a_1 = 28$, $d = 10$

8. $a_1 = -38$, $d = -100$

Given the arithmetic sequence, find the 30th term.

9. −34, −44, −54, −64, −74

10. −39, −31, −23, −15, −7

Find the missing terms in the sequence.

11. 30, ____, ____, ____, 22

12. −15, ____, ____, ____, ____, ____, −75

13. −31, ____, ____, ____, ____, ____, −73,

14. 15, ____, ____, ____, ____, ____, ____, 43

Given two terms in an arithmetic sequence, find the term named in the problem.

15. $a_{18} = 3362$ and $a_{38} = 7362$
    Find a_{10}

16. $a_{18} = 44.3$ and $a_{33} = 84.8$
    Find a_{50}

17. $a_{26} = 492$ and $a_{34} = 1292$
Find a_{50}

18. $a_{35} = 202$ and $a_{40} = 177$
Find a_{10}

Evaluate each arithmetic series described.

19. $\sum_{k=1}^{35} (5k - 2)$

20. $\sum_{m=1}^{10} (7m - 2)$

21. $\sum_{i=1}^{7} (7i - 4)$

22. Find S_n if $a_1 = 42$, $a_n = 146$, $n = 14$

23. Find S_n if $a_1 = 4$, $a_n = 22$, $n = 10$

24. Find S_n if $a_1 = 17$, $d = 4$, $n = 20$

Find the term named in the problem.

25. −39, −49, −59, −69, ...
    Find a_{40}

26. −14, −10, −6, −2, ...
    Find a_{34}

Evaluate each arithmetic series described.

27. Find S_n if 20 + 27 + 34 + 41... and $n = 16$

28. Find S_n if 20 + 30 + 40 + 50... and $n = 15$

Determine the number of terms *n* in each arithmetic series

29. $a_1 = 19$, $a_n = 96$, $S_n = 690$

30. $a_1 = 16$, $a_n = 163$, $S_n = 4475$

Book Work: p. 885 (43 – 49)