

Assignment

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Given the explicit formula for an arithmetic sequence find the common difference, the first five terms, the 52nd term, and the recursive formula.

1) $a_n = -9 + (n - 1) \cdot 200$

2) $a_n = -22 + (n - 1) \cdot -3$

3) $a_n = -24 - 10n$

4) $a_n = 29 - 6n$

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

5) $a_1 = -14, d = -100$

6) $a_1 = 10, d = 2$

7) $a_1 = 35, d = -4$

Given two terms in an arithmetic sequence find the common difference and the explicit formula.

8) $a_{14} = 39$ and $a_{34} = 139$

9) $a_{19} = -55$ and $a_{32} = -81$

10) $a_{20} = -89$ and $a_{32} = -149$

11) $a_{20} = 87$ and $a_{33} = 126$

12) $a_{20} = -3802$ and $a_{34} = -6602$

13) $a_{19} = -219$ and $a_{34} = -369$

14) $a_{19} = 198$ and $a_{33} = 338$

15) $a_{19} = -547$ and $a_{33} = -967$

Given a term in an arithmetic sequence and the common difference find the explicit formula.

16) $a_{13} = 2376$, $d = 200$

17) $a_{37} = 257$, $d = 8$

18) $a_{19} = -144$, $d = -6$

19) $a_{14} = 154$, $d = 9$

$$20) a_{18} = 341, d = 20$$

$$21) a_{32} = -291, d = -9$$

$$22) a_{21} = -1975, d = -100$$

$$23) a_9 = 29, d = 2$$

Answers to Assignment (ID: 1)

- 1) Common Difference: $d = 200$
 First Five Terms: $-9, 191, 391, 591, 791$
 $a_{52} = 10191$
 Recursive: $a_n = a_{n-1} + 200$
 $a_1 = -9$
- 2) Common Difference: $d = -3$
 First Five Terms: $-22, -25, -28, -31, -34$
 $a_{52} = -175$
 Recursive: $a_n = a_{n-1} - 3$
 $a_1 = -22$
- 3) Common Difference: $d = -10$
 First Five Terms: $-34, -44, -54, -64, -74$
 $a_{52} = -544$
 Recursive: $a_n = a_{n-1} - 10$
 $a_1 = -34$
- 4) Common Difference: $d = -6$
 First Five Terms: $23, 17, 11, 5, -1$
 $a_{52} = -283$
 Recursive: $a_n = a_{n-1} - 6$
 $a_1 = 23$
- 5) Explicit: $a_n = 86 - 100n$
 Recursive: $a_n = a_{n-1} - 100$
 $a_1 = -14$
- 6) Explicit: $a_n = 8 + 2n$
 Recursive: $a_n = a_{n-1} + 2$
 $a_1 = 10$
- 7) Explicit: $a_n = 39 - 4n$
 Recursive: $a_n = a_{n-1} - 4$
 $a_1 = 35$
- 8) Common Difference: $d = 5$
 Explicit: $a_n = -31 + 5n$
- 9) Common Difference: $d = -2$
 Explicit: $a_n = -17 - 2n$
- 10) Common Difference: $d = -5$
 Explicit: $a_n = 11 - 5n$
- 11) Common Difference: $d = 3$
 Explicit: $a_n = 27 + 3n$
- 12) Common Difference: $d = -200$
 Explicit: $a_n = 198 - 200n$
- 13) Common Difference: $d = -10$
 Explicit: $a_n = -29 - 10n$
- 14) Common Difference: $d = 10$
 Explicit: $a_n = 8 + 10n$
- 15) Common Difference: $d = -30$
 Explicit: $a_n = 23 - 30n$
- 16) $a_n = -24 + (n - 1) \cdot 200$
- 17) $a_n = -31 + (n - 1) \cdot 8$
- 18) $a_n = -36 + (n - 1) \cdot -6$
- 19) $a_n = 37 + (n - 1) \cdot 9$
- 20) $a_n = 1 + (n - 1) \cdot 20$
- 21) $a_n = -12 + (n - 1) \cdot -9$
- 22) $a_n = 25 + (n - 1) \cdot -100$
- 23) $a_n = 13 + (n - 1) \cdot 2$