

3-6 Practice

Arithmetic Sequences as Linear Functions

Determine whether each sequence is an arithmetic sequence. Write *yes* or *no*. Explain.

1. 21, 13, 5, -3, ...

Yes

2. -5, 12, 29, 46, ...

Yes

3. -2.2, -1.1, 0.1, 1.3, ...

NO

Find the next three terms of each arithmetic sequence.

4. 82, 76, 70, 64, ...

58, 52, 46

5. -49, -35, -21, -7, ...

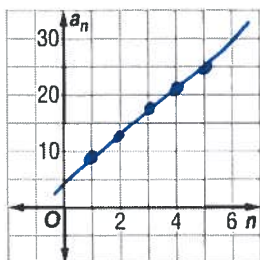
7, 21, 35

6. $\frac{3}{4}, \frac{1}{2}, \frac{1}{4}, 0, \dots$

-.25, -.5, -.75

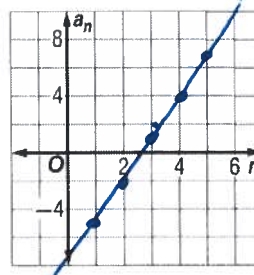
Write an equation for the n th term of each arithmetic sequence. Then graph the first five terms of the sequence.

7.) 9, 13, 17, 21, 25



$A_n = a_1 + (n-1)d$
 $a_1 = 9$
 $d = 4$
 $A_n = 9 + (n-1)4$
 $= 9 + 4n - 4$
 $A_n = 4n + 5$

8.) -5, -2, 1, 4, ...



$A_n = 3n - 8$

9. **BANKING** Chem deposited \$115.00 into a new savings account. Each week thereafter, he deposits another \$35.00.

a. Write a function to represent the balance of Chem's savings account for any number of weeks after his initial deposit if he makes no withdrawals.

$A_n = 35n + 115$

Common Diff

b. What is the balance of Chem's savings account 30 weeks after his initial deposit?

$A_{30} = \rightarrow \$1165$

10. **STORE DISPLAYS** Tamika is stacking boxes of tissue for a store display. Each row of tissues has 2 fewer boxes than the row below. The first row has 23 boxes of tissues.

a. Write a function to represent the arithmetic sequence.

$A_n = -2n + 25$

Common Diff.

b. How many boxes will there be in the tenth row?

$A_{10} = \underline{5}$

3-6 Word Problem Practice

Arithmetic Sequences as Linear Functions

1. **POSTAGE** The price to send a large envelope first class mail is 88 cents for the first ounce and 17 cents for each additional ounce. The table below shows the cost for weights up to 5 ounces.

Weight (ounces)	1	2	3	4	5
Postage (dollars)	0.88	1.05	1.22	1.39	1.56

How much did a large envelope weigh that cost \$2.07 to send?

8 oz.

2. **SPORTS** Wanda is the manager for the soccer team. One of her duties is to hand out cups of water at practice. Each cup of water is 4 ounces. She begins practice with a 128-ounce cooler of water. How much water is remaining after she hands out the 14th cup?

72 oz.

3. **THEATER** A theater has 20 seats in the first row, 22 in the second row, 24 in the third row, and so on for 25 rows. How many seats are in the last row?

68 seats

5. **SAVINGS** Inga's grandfather decides to start a fund for her college education. He makes an initial contribution of \$3000 and each month deposits an additional \$500. After one month he will have contributed \$3500.

- a. Write an equation for the n th term of the sequence.

$$A_n = 3000 + 500n$$

- b. How much money will Inga's grandfather have contributed after 24 months?

\$ 15,000