Name _____

Date _____ Pd. _____

Notes: Arithmetic Sequences

Arithmetic Sequence	a numerical pattern that increases or decreases at a _____ rate or value called the _____

Example 1 **Determine whether the sequence 1, 3, 5, 7, 9, 11, ... is an arithmetic sequence. Justify your answer.**

Example 2 **Determine whether the sequence 1, 2, 4, 8, 16, 32, ... is an arithmetic sequence. Justify your answer.**

Terms of an Arithmetic Sequence	If a_1 is the first term of an arithmetic sequence with common difference d, then the sequence is _____
***n*th Term of an Arithmetic Sequence**	

Example 1 **Find the next three terms of the arithmetic sequence 28, 32, 36, 40, ...**

Example 2 **Write an equation for the *n*th term of the sequence 12, 15, 18, 21, ...**

Name _____

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Exit Card: Arithmetic Sequences

1. The table below shows the total number of people served in a cafeteria.

PEOPLE SERVED IN A CAFETERIA

Time	Total Number of People Served
12:00	25
12:10	55
12:20	85
12:30	115

If the pattern continues, what will be the total number of people served by 1:00?

A 145

B 175

C 205

D 235

2. Look at the pattern below.

$$\frac{16}{4}, \frac{21}{4}, \frac{26}{4}, \frac{31}{4}, \frac{36}{4}, \frac{41}{4}, \ldots$$

If the pattern continues, what will be the tenth term?

Name _____

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Homework: Pages 236 – 237 (1, 4 – 7, 17 – 24, 45, 46)

1. Write an arithmetic sequence whose common difference is –10.
4. Is 24, 16, 8, 0, . . . an arithmetic sequence? If so, what is the common difference?
5. Is 3, 6, 12, 24, . . . an arithmetic sequence? If so, what is the common difference?
6. Find the next three terms in the sequence 7, 14, 21, 28, . . .
7. Find the next three terms in the sequence 34, 29, 24, 19, . . .
17. Is 9, 5, –1, –5, . . . an arithmetic sequence? If so, what is the common difference?
18. Is –15, –11, –7, –3, . . . an arithmetic sequence? If so, what is the common difference?
19. Is –0.3, 0.2, 0.7, 1.2, . . . an arithmetic sequence? If so, what is the common difference?

20. Is 2.1, 4.2, 8.4, 17.6, . . . an arithmetic sequence? If so, what is the common difference?

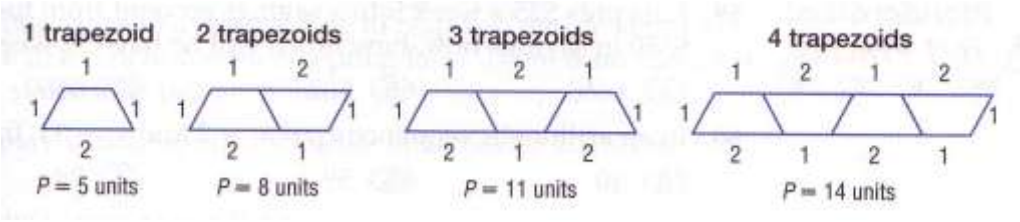
21. Find the next three terms in the sequence 4, 7, 10, 13, . . .

22. Find the next three terms in the sequence 18, 24, 30, 36, . . .

23. Find the next three terms in the sequence –66, –70, –74, –78, . . .

24. Find the next three terms in the sequence –31, –22, –13, –4, . . .

Look at the pattern of trapezoids.



45. Write a formula that can be used to find the perimeter of a pattern containing *n* trapezoids.

46. What is the perimeter of the pattern containing 12 trapezoids?