Warm Up: Pre - Calc 8/22

1) Determine whether the sequence is arithmetic. If the sequence is arithmetic, state the common difference. Write the next three in the sequence. What is a_6? $\{a_n\} = \{16, 26, 36, 46, ...\}$

2) What things would you need to know in order to create a sequence recursively?

Feb 27-7:39 AM

Solutions to W.U.: Pre-Calc

1) Arithmetic, d = 10, 56, 66, 76; A sub 6 = 66

2) $a_6 = 66$

Dec 31-10:07 PM

Solutions to P.W.: Last night

21) Not arithmetic

22) d = -3; $a_n = a_{n-1} - 3$

23) d = 4; $a_n = a_{n-1} + 4$

24) a_n = {13, 18, 23, 28, 33, ... }

Dec 31-10:07 PM

21. 1, 1, 2, 3, 5, 8, . . .

22. 20, 17, 14, 11, 8, . . .

23. 3, 7, 11, . . .

24. A sequence is defined by $a_1 = 13, a_n = 5 + a_{n-1}$. Write the first five terms in the sequence.

{ 13, 18,

Aug 22-9:58 AM

Solutions to P.W.:Two nights ago

Bopper's DVD Store
Earn A Free DVD Rental!
Earn 3 DVD Points With Your 1st DVD Rental
Earn 2 DVD Points For Every Additional Rental
Redeem 24 DVD Points For 1 FREE DVD Rental!

1. Complete the following table to indicate the total number of DVD points after each indicated DVD rental.

Bopper's DVD Store						
DVD Rentals n	1	2	3	4	5	6
Total DVD Points B_n	3	5	7	9	11	13

Dec 31-10:07 PM

Solutions to P.W.:Two nights ago

2. The table shows that the DVD points earned depend on the number of DVD rentals. Let B_n denote the total number of Bopper's DVD points earned after n rentals. What is the total number of DVD points for one, two, and three rentals?

$B_1 =$ 3 $B_2 =$ 5 $B_3 =$ 7

Dec 31-10:07 PM

Solutions to P.W.:Two nights ago

3. Use $\{B_n\}$ to answer the following.

a. List the first eight terms of the sequence $\{B_n\}$.

3, 5, 7, 9, 11, 13, 15, 17

b. Make use of structure. Explain the meaning of B_7.

B_7 is the seventh term of the sequence $\{B_n\}$.

c. Write an algebraic expression for the n^{th} term, B_n, in terms of n, the number of DVD rentals at Bopper's DVD Store.

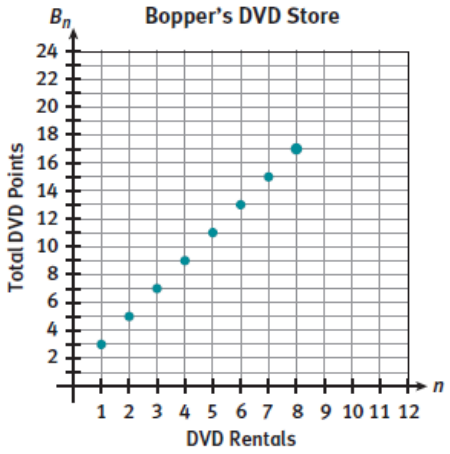
$B_n = 2n + 1$

d. In the context of Bopper's DVD rentals, explain the meaning of n a the algebraic expression written in part c.

n is a counting number greater than or equal to 1; the number of points after n DVD rentals is 1 more than twice the number of renta

Dec 31-10:07 PM

Solutions to P.W.:Two nights ago



b. Using your graph, explain why $\{B_n\}$ is a function of n.

Sample answer: The graph passes the Vertical Line Test. For each value of n, there is a unique value for B_n.

c. List as many properties of the graph of $\{B_n\}$ as possible.

Sample answer: The points are collinear and lie on the line $B = 2n + 1$.

Dec 31-10:07 PM

Solutions to P.W.:Two nights ago

b. Using your graph, explain why $\{B_n\}$ is a function of n.
Sample answer: The graph passes the Vertical Line Test. For each value of n, there is a unique value for B_n.

c. List as many properties of the graph of $\{B_n\}$ as possible.
Sample answer: The points are collinear and lie on the line $B = 2n + 1$.

5. How many rentals are needed to obtain a free DVD rental from Bopper's? Show the work that leads to your answer.
$2n + 1 = 24$; $n = 11.5$. It will take 12 rentals to earn a free DVD rental.

Dec 31-10:07 PM

W.A.L.T.: Day 4

Write explicit formulas for arithmetic sequences.

W.A.S.I:

We can connect our understanding of the common difference, subscript notation and sequences to write the explicit formula for an arithmetic sequence.

Mar 7-9:45 AM

In Class Work:

Let's start with this

$$\{a_n\} = \{4, 6, 8, 10, 12....\}$$

1 2 3 4 5

What would an explicit formula do? (Think functions)

Mar 7-1:33 PM

Notes!!! Explicit Formula

An *explicit formula* can be used to calculate any term in the sequence using the term number.

Dec 31-10:01 PM

In Class Work:

Complete the blanks for the sequence {4, 6, 8, 10, 12, 14, . . .} formed by the number of hydrogen atoms.

$a_1 =$ _____ $d =$ _____

$a_2 = 4 +$ _____ $\cdot 2 = 6$

$a_3 = 4 +$ _____ $\cdot 2 = 8$

$a_4 = 4 +$ _____ $\cdot 2 =$

$a_5 = 4 +$ _____ $\cdot 2 =$

$a_6 = 4 +$ _____ $\cdot 2 =$

$a_{10} = 4 +$ _____ $\cdot 2 =$

Mar 7-1:33 PM

Today's Activities:

- Lotsa matha stuffsa

P.W. for tonight:

- Figuring out the pattern and translating it symbolically

Day 4

Dec 31-9:59 PM