6.1 Sequences

NOTES

ALGEBRA

Write your questions here!

Ex 1:

What are the next two numbers in the sequence.

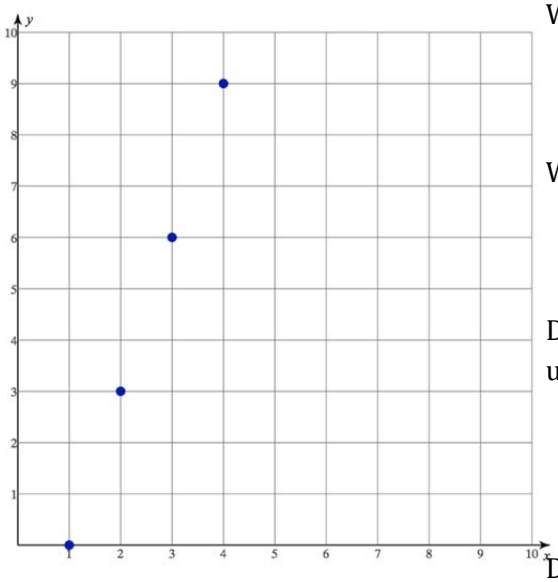
Sequence:

Ex 2:

Are the numbers in this sequence different than the first one? How?

So what differentiates it from the first one?

Ex 3:



What are the first 6 terms of this sequence?

What is f_{10}? What is f(15)?

Describe how you go from one term to the next using complete sentences.

Describe how the graph changes from one term to the next using complete sentences.

Ex 4: Consider the sequence:

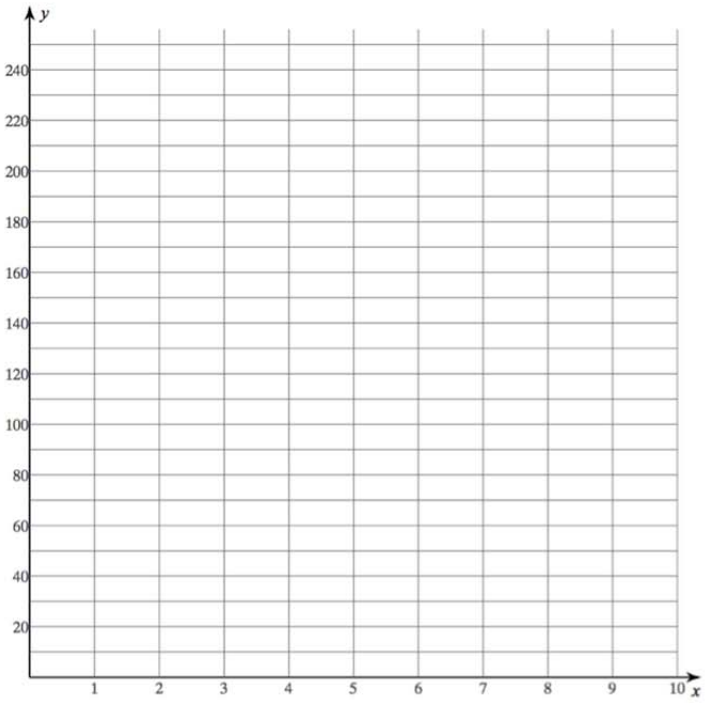
a. Describe how you go from one term to the next using complete sentences.

b. What is b_8?

c. What is b(10)?

d. Graph the terms of the sequence as an ordered pair (n, b(n))

e. Describe how the graph changes from one term to the next using complete sentences.



Ex 5:

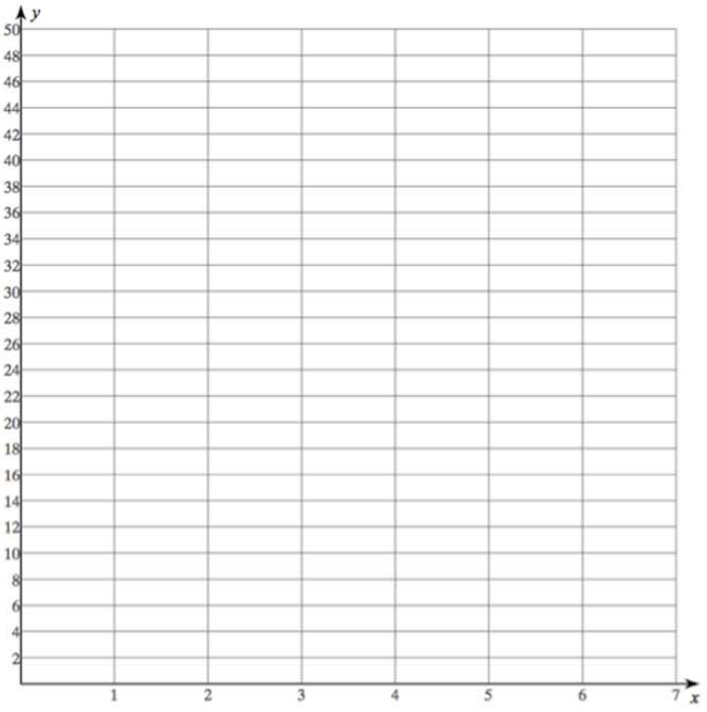
a. Describe how you go from one term to the next using complete sentences.

b. What is a(6)?

c. What is a_7?

d. Graph the terms of the sequence as an ordered pair (n, a(n))

e. Describe how the graph changes from one term to the next using complete sentences.



SUMMARY:

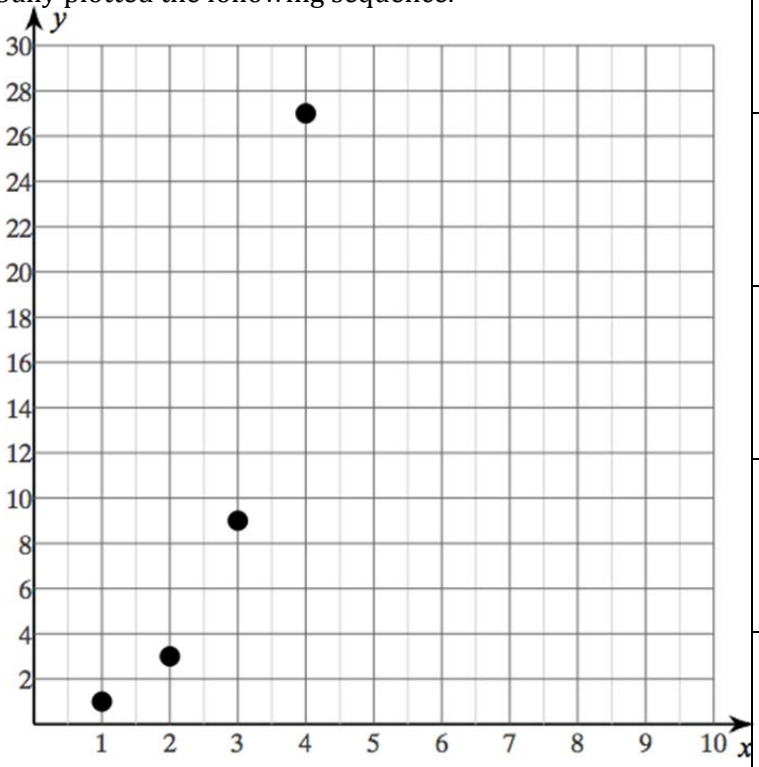
Now, summarize your notes here!

PRACTICE

USE COMPLETE SENTENCES when writing descriptions!

USE THE GRAPH BELOW TO ANSWER QUESTIONS #1 – 5.

Sully plotted the following sequence.



1) Write the first five terms of the sequence.

2) Describe how you go from one term of the sequence to the next.

3) Find S_7.

4) Find S(10)

5) Describe how the graph changes from one term to the next.

USE THE FOLLOWING SEQUENCE FOR #6-10: Kelly's sequence: 26, 22, 18, 14,

6) Describe how you go from one term of the sequence to the next.

7) Find K(12).

8) Find K_{15}

9) Graph the terms of the sequence as an ordered pair $(n, K(n))$ on the graph ABOVE.

10) Describe how the graph changes from one term to the next.

USE THE FOLLOWING SEQUENCE FOR #11-15: Brust's sequence: 20, 50, 80, 110

11) Describe how you go from one term of the sequence to the next.

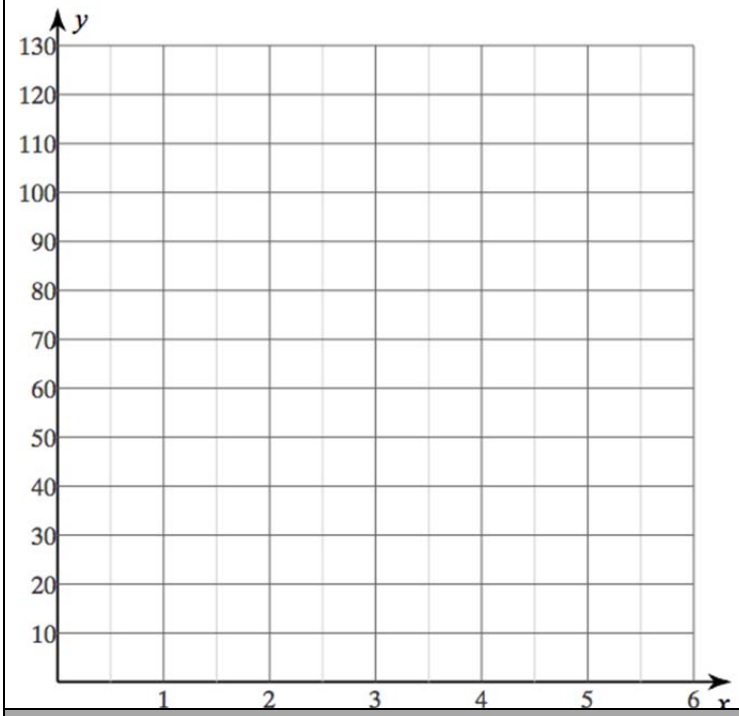
12) Find B(11).

13) Find B_{15}

14) Graph the terms of the sequence as an ordered pair $(n, B(n))$ on the graph ON THE NEXT PAGE.

15) Describe how the graph changes from one term to the next.

USE THE FOLLOWING SEQUENCE FOR #16-20: Bean's sequence: 1, 5, 25, 125



16) Describe how you go from one term of the sequence to the next.

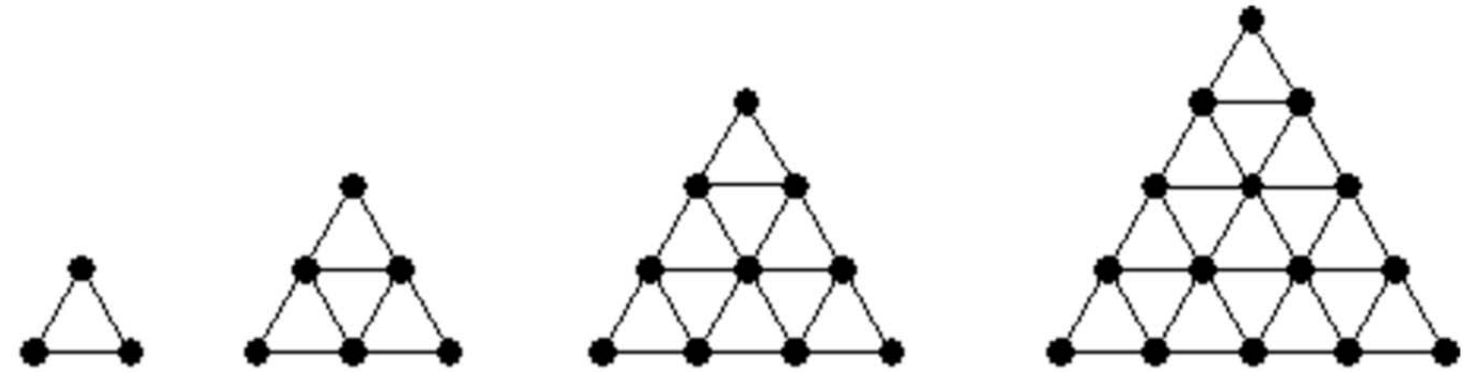
17) Find B_8

18) Find B(11)

19) Graph the terms of the sequence as an ordered pair $(n, B(n))$ on the graph.

20) Describe how the graph changes from one term to the next.

Use the following pattern for #21-25.



21) What are the first 6 terms of the sequence?

22) Find T_8

22) Find T(10).

24) Describe how you go from one term of the sequence to the next.

25) Sketch how you think the graph will look. Construct a viable argument for why you think it will look that way.

SMP #3

Directions: Solve the system.	Directions: Solve the equation.
26) $\begin{matrix} -3x - 4y = 5 \\ 3x + 2y = -8 \end{matrix}$	27) $\frac{x-5}{10} = -2$
Directions: Find x.	**Directions: Find the product.**
28) 25, 55, $\boldsymbol{x}$, 90, 10 ; The mean is 50.	29) $(x - 7)(2x + 4)$

6.1 Sequences

WRAP UP

Use the sequence for the following: 2, 6, 18, 54		
1) Find F_{10}	2) Find F(15)	3) Describe how you go from one term of the sequence to the next.

4) A TWENTY-EURO bill is approximately 13 cm long and 7 cm wide.

a) Find the area of one twenty-euro bill.

b) If the twenty-euro bill were folded completely in half, what would the area of the new rectangle formed be?

c) Find the first four terms of the sequence if you continued folding the bill in half each time.

d) Describe how you go from one term of the sequence to the next.

EXIT TICKET –

Use the following sequence. 3, 6, 12, 24, 48.

1) Mr. Brust says that the 10^{th} term of the above sequence is 768. Is he right? How do you know?

2) He claims that he created a formula to get to the right term. His formula is $B(n) = 3(2)^n$. What's wrong with the formula? How would you fix it?