Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Lesson 5.0: Unit 5 Introduction***

You will be completing several explorations using Google Sheets (Google’s version of Excel) for this exercise. Save your sheet as **Lesson 5.0** and share the file with Mrs. Schenkel when you complete the exercise.

**Exercise 1: Complete each step in the order in which it is presented. Use the right column to check each step as you complete it.**

|  |  |
| --- | --- |
| **Directions** | **Complete** |
| Title Sheet 1 “Exercise 1” and color the tab purple. |  |
| Type “Term Number, n” in cell A1 |  |
| Adjust **all** column sizes to width 22.00 |  |
| Adjust row 1 to a column height of 25.00. All other rows should have a column height of 20.00. |  |
| Type “an” in cell B1 |  |
| Change the font to anything you want for the whole sheet. List the font you chose below.  Font Choice: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| Orient the cells in row 1 to the center of the cell horizontally and vertically. Then bold all of the font for row 1. |  |
| In column A, generate a list of terms from 1 – 30 using a formula. Your formula should be listed in cell A3 and then dragged down. |  |
| In column B, generate a list of the terms defined by the sequence below. What is a30? Highlight the cell that contains a30 any shade of orange you would like.  a30 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| What would the explicit formula be for an? Write it in the space below.  an = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| Type “Term Number, n” in cell D1 |  |
| Type “bn” in cell E1 |  |
| In column D, generate a list of terms from 1 – 30 using a formula. Your formula should be listed in cell D3 and then dragged down. |  |
| In column E, generate a list of the terms defined by the sequence below. What is b30? Highlight the cell that contains b30 any shade of yellow you would like.  b30 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| What would the explicit formula be for bn? Write it in the space below.  bn = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| Type “Term Number, n” in cell G1 |  |
| Type “cn” in cell H1 |  |
| In column G, generate a list of terms from 1 – 30 using a formula. Your formula should be listed in cell G3 and then dragged down. |  |
| In column H, generate a list of the terms defined by the sequence below. What is c30? Highlight the cell that contains c30 any shade of green you would like.  c30 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| What would the explicit formula be for cn? Write it in the space below.  cn = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |

**Answer the following questions about Exercise 1:**

1. Which sequence grows the fastest, an, bn, or cn? Why do you think so?

2. Which sequence grows the slowest, an, bn, or cn? Why do you think so?

3. If you were to graph each sequence using the term number (n) as the independent variable (x) and the term (an, bn, cn respectively) as the dependent variable (y) what do you think the graph would look like? Sketch it on the provided coordinate planes.



****4. Now put an, bn, cn on the same graph. Label each of them or draw them in different colors. How do they compare?

**Exercise 2: Complete each step in the order in which it is presented. Use the right column to check each step as you complete it.**

|  |  |
| --- | --- |
| **Directions** | **Complete** |
| Create a new Sheet and title it “Exercise 2”. Color the tab blue. |  |
| Type “Term Number, n” in cell A1 |  |
| Adjust **all** column sizes to width 18.00 |  |
| Adjust row 1 to a column height of 20.00. All other rows should have a column height of 15.00. |  |
| Type “an” in cell B1 |  |
| Change the font to anything you want for the whole sheet. List the font you chose below. **It must be different from the font you chose in exercise 1.**  Font Choice: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| Orient the cells in row 1 to the center of the cell horizontally and vertically. Then bold all of the font for row 1. |  |
| In column A, generate a list of terms from 1 – 20 using a formula. Your formula should be listed in cell A3 and then dragged down. |  |
| In column B, generate a list of the terms defined by the sequence below. What is a20? Highlight the cell that contains a20 any shade of orange you would like.  a20 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| What would the explicit formula be for an? Write it in the space below.  an = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| Type “Term Number, n” in cell D1 |  |
| Type “bn” in cell E1 |  |
| In column D, generate a list of terms from 1 – 30 using a formula. Your formula should be listed in cell D3 and then dragged down. |  |
| In column E, generate a list of the terms defined by the sequence below. What is b20? Highlight the cell that contains b20 any shade of yellow you would like.  b20 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| What would the explicit formula be for bn? Write it in the space below.  bn = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| Type “Term Number, n” in cell G1 |  |
| Type “cn” in cell H1 |  |
| In column G, generate a list of terms from 1 – 30 using a formula. Your formula should be listed in cell G3 and then dragged down. |  |
| In column H, generate a list of the terms defined by the sequence below. What is c20? Highlight the cell that contains c20 any shade of green you would like.  c20 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| What would the explicit formula be for cn? Write it in the space below.  cn = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |

**Answer the following questions about Exercise 2:**

1. What happens to all three sequences as n gets larger?

2. Which sequence decays the fastest and the slowest, an, bn, or cn? Why do you think so?

3. Will any of these sequences every have a term that hits 0? Why or Why not?

4. If you were to graph each sequence using the term number (n) as the independent variable (x) and the term (an, bn, cn respectively) as the dependent variable (y) what do you think the graph would look like? Sketch it on the provided coordinate planes.



****5. Now put an, bn, cn on the same graph. Label each of them or draw them in different colors. How do they compare?