Lesson 4.2 – Constructing Arithmetic Sequences

The Plan For Today

- Technical Difficulties?
- Email or in Schoology
- Thank You!
- Lesson 4.1 – Due Today
- Vocabulary Practice
- Lesson 4.2
  - Construct rules for arithmetic sequences.
  - Relate arithmetic sequences and functions.
- 4.2 Homework

HWQ #7 – Thurs., 10/22
Unit 2 Test – Fri. 10/23

Lesson 4.2 – Constructing Arithmetic Sequences

In an arithmetic sequence, the difference between consecutive terms is always equal. This difference, written as $d$, is called the common difference.

The recursive rule for an arithmetic sequence:
$$f(n) = f(n-1) + d \quad \text{for} \quad n \geq 2$$

The explicit rule for an arithmetic sequence:
$$f(n) = f(1) + d(n-1)$$

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The total number of hats in Jerry’s hat collection depends on how many years he has been collecting hats. After the first year, Jerry had 12 hats. Each year he has added the same number of hats to his collection. The graph shows the sequence. Write the explicit rule in function notation for the arithmetic sequence.

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The table shows the number of plates left at a buffet after $n$ hours.

A. Write a function for any term of the arithmetic sequence given the previous term.
$$f(n) = f(n-1) - 13$$

B. Write a function for any term of the arithmetic sequence.
$$f(n) = 170 - 13(n-1)$$

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Complete the recursive rule and the explicit rule for the arithmetic sequence.

$$d = 10$$

Recursive:
$$f(n) = f(n-1) + 10$$

Explicit:
$$f(n) = 3 + 10(n-1)$$

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Homework

1. Go to my.hrww.com
2. Can always get 100%!
3. Example & Step-by-Step
4. Try Another
5. Ask questions!
6. You can do it!!
Feedback on Today's Class

Text 246768 and your
message to 37607
Submit 246768 and your
message to http://PollEv.com

✔ What did you like?
✔ What didn't you like?
✔ What did you learn?
✔ What isn't quite clear?
✔ ______ is awesome!
✔ Please stop __________.
✔ Anything else...