

*You are invited to a Birthday Party for Mrs. Stein.*

*We will be canoeing down the Thornapple River!*



*Name* \_\_\_\_\_

*Hour* \_\_\_\_\_

*Cost* \_\_\_\_\_

**Vocabulary:**

- Function -
- Recursion -

**Today's Bellringer**

1.  $3 + 2 * 6 =$
2.  $4(2 + 1) \div 2 =$
3.  $4 \div 4 + 2 =$

**In-Class Practice:**

Team Renaissance will be traveling to the Happy Mohawk Canoe Livery to take a canoe trip. The bus will cost \$600 to get us there. Each person traveling in a canoe will cost \$13. How much will it cost the team to take a class of 30 students?

\_\_\_\_\_ (It is ok if this is a guess)

Number of people riding in canoes	Total Price
1	\$613
2	\$626
3	\$639
4	\$652

Is this example a function? \_\_\_\_\_ Why? \_\_\_\_\_

\_\_\_\_\_

*A Different Example:*

A certain business keeps a database of information about its customers.

Customer Name	Home Phone Number
Heather Baker	3105100091
Mike London	3105200256
Sue Green	3234132598
Bruce Swift	3234132598
Michelle Metz	2138061124

- Let  $C$  be the rule which assigns to each customer shown in the table his or her home phone number. Is  $C$  a function? \_\_\_\_\_ Explain your reasoning.  
\_\_\_\_\_
- Let  $P$  be the rule which assigns to each phone number in the table, the customer name(s) associated with it. Is  $P$  a function? \_\_\_\_\_ Explain your reasoning.  
\_\_\_\_\_
- Explain why a business would want to use a person's social security number as a way to identify a particular customer instead of their phone number.  
\_\_\_\_\_  
\_\_\_\_\_

### Next-Now Notation

- Where is the table now? NOW = \_\_\_\_\_
- How do we get to the next term? NEXT = NOW + \_\_\_\_\_
- Where did the table start from? START = \_\_\_\_\_

**Subscripts**

- $U_n = U_{n-1} + 13$  is the same as \_\_\_\_\_
- $U_1 = 600$  is the same as \_\_\_\_\_

**Practice – Define each sequence using NEXT-NOW notation and subscript notation.**

1. -12, -5, 2, 9...
2. 51, 72, 93, 114...
3. 0.25, -0.75, -1.25...
4.  $\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ...
5. 1,  $1\frac{1}{3}$ ,  $1\frac{2}{3}$ , 2...

Name \_\_\_\_\_

**Define the sequence using NEXT-NOW notation and subscript notation.**

**3, 7, 11, 15...**

Name \_\_\_\_\_

**Define the sequence using NEXT-NOW notation and subscript notation.**

**3, 7, 11, 15...**

Name \_\_\_\_\_

***Define the sequence using NEXT-NOW notation and subscript notation.***

***3, 7, 11, 15...***

## Answer Keys

### Day 6 Bellringer:

1. 15

2. 6

3. 3

### • Day 6 Practice:

	NEXT-NOW notation	Subscript notation
1. -12, -5, 2, 9...	Next = Now + 7	$U_n = U_{n-1} + 7$ / $U_1 = -12$
2. 51, 72, 93, 114, ...	Next = Now + 21	$U_n = U_{n-1} + 21$ / $U_1 = 51$
3. 0.25, -0.75, -1.25...	Next = Now - 0.5	$U_n = U_{n-1} - 0.5$ / $U_1 = 0.25$
4. $1/4, 3/8, 1/2, 5/8...$	Next = Now + $1/8$	$U_n = U_{n-1} + 1/8$ / $U_1 = 1/4$
5. $1, 1\ 1/3, 1\ 2/3, 2...$	Next = Now + $1/3$	$U_n = U_{n-1} + 1/3$ / $U_1 = 1$

### Define the sequence:

	NEXT-NOW notation	Subscript notation.
3, 7, 11, 15...	Next = Now + 4	$U_n = U_{n-1} + 4$ / $U_1 = 3$