

# Post Formative Review

Name: \_\_\_\_\_ 10\_\_

$n^{\text{th}}$  term of an arithmetic sequence:

$$u_n = u_1 + (n - 1)d$$

$n^{\text{th}}$  term of a geometric sequence:

$$u_n = u_1 \cdot r^{n-1}$$

## From the Assessment

1. Given the sequence:  $u_n = 7 - 3n^2$  for  $n \geq 1$

a. Write the first three terms.

b. Find the term that has the value -761.

## Try One

1. Given the sequence:  $u_n = 3 - 4n^2$  for  $n \geq 1$

a. Find the first three terms.

b. Find the 12<sup>th</sup> term in the sequence

c. Which term has a value of -155?

2. Given the recursive rule for a sequence:

$$u_{n+1} = 2(u_n - 4) \text{ for } n \geq 1 \text{ and } u_1 = 17$$

Write the first four terms of this sequence.

For the sequence:  $u_{n+1} = 3(u_n - 2)$  for  $n \geq 1$

If  $u_1 = 13$ , then list the first three terms.

## From the Assessment

3. Consider the given sequence:  $-18, -14, -10, -6, \dots$
- Use the “linear” approach to create the explicit rule.
  - Use the “arithmetic” approach to create a general rule.  
Simplify this rule to show that it is the same as in part a.

## Try One

- Given the sequence:  $23, 12, 1, -10, \dots$
- Use the “linear” approach to create the explicit rule.
  - Use the “arithmetic” approach to create a general rule.  
Simplify this rule to show that it is the same as in part a

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4. Given the geometric sequence:  $-2, -5, -12.5, \dots$

- Create an explicit rule  
for the sequence.

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- Create an explicit rule  
for the sequence.

- Use the rule to find

- Find the term that has the value  $-3051.7578125$

- Use the rule to find  $u_6$

- Find the term that has the value  $-3051.7578125$

## From the Assessment

5. Create a rule for each quadratic sequence:

a) 5, 5, 7, 11, ...

b) -12, -19, -32, -51, ...

6. Find the explicit rule for an arithmetic sequence whose 3<sup>rd</sup> term is -1 and whose 7<sup>th</sup> term is -21.

## Try One

Create a rule for each quadratic sequence:

a) 15, 21, 28, 36, ...

b) -12, -19, -32, -51, ...

## From the Assessment

7. Find the explicit rule for a geometric sequence whose 4<sup>th</sup> term is -192 and whose 7<sup>th</sup> term is - 12288 .

8. The first three terms of an arithmetic sequence are:  
 $4k - 2$ ,  $3k + 4$  and  $6k$

a. Find the value of  $k$ .

b. Find the value of  $u_{15}$

## Try One

Find the explicit rule for a geometric sequence whose 3<sup>rd</sup> term is 2500 and whose 6<sup>th</sup> term is 156250 .

The first three terms of an arithmetic sequence are:  
 $2k + 3$ ,  $5k - 1$ ,  $8k + 2$

