

# After Test Assignment

Name \_\_\_\_\_ Date \_\_\_\_\_

this will count as the first assignment for the next Unit.

① Find the missing terms of the sequence and write a sequence formula in both *zero term* and *first term* format.

a) \_\_\_\_\_, \_\_\_\_\_, 125, \_\_\_\_\_, \_\_\_\_\_, .... (hint: the multiplier is 1.25)

first term format:  $t_n =$  \_\_\_\_\_

zero term format:  $t_n =$  \_\_\_\_\_

b) 4000, 1000, 250, \_\_\_\_\_, \_\_\_\_\_, ....

first term format:  $t_n =$  \_\_\_\_\_

zero term format:  $t_n =$  \_\_\_\_\_

② Several customers at a fancy restaurant were reporting food poisoning. A biologist named Tina was recording bacteria growth on the cooking surfaces. She is trying to predict the amount of bacteria after 20 hours. Unfortunately she lost the count after the first hour and forgot to record count at six hours.

a) Determine the missing counts.

b) Write a sequence formula, using the notation, " $t_n =$ " that models the growth after  $n$  hours.

c) Use your formula to calculate the predicted bacteria counts after 20 hours.

hours	# bacteria
1	
2	10
3	25
4	62.5
5	156.25
6	

③ Challenge:  
Determine a formula for the geometric sequence:

n	$t_n$
1	
2	68
3	
4	786.08
5	



$$\frac{2}{3}x + x - 2 = 2(x+1)$$

Solve

5

$$2x - 3(x+2) = x + 100$$

Solve

11