Section B Comprehensive Review

Directions: Show all work. Use exact values. Box or circle all answers.

1. Write a recursive formula to represent the sequence $6,18,54,162,\ldots$.

2. Write a recursive formula to represent the sequence $5,20,80,320,\ldots$.

3. Write a recursive formula to represent the sequence $90,30,10,\frac{10}{3},\ldots$.

4. Write a recursive formula to represent the sequence $12,6,3,\frac{3}{2},\ldots$.

5. Write a recursive formula to represent the sequence $8,-16,32,-64,\ldots$.

6. Write a recursive formula to represent the sequence $3,-6,12,-24,\ldots$.

7. Write a recursive formula to represent the sequence $64, -32, 16, -8, \ldots$.

8. Write a recursive formula to represent the sequence $162, -54, 18, -6, \ldots$.

9. Write the first six terms of a sequence if $a_1 = 10$ and $a_n = 2a_{n-1}$.

10. Write the first six terms of a sequence if $a_1 = 7$ and $a_n = 3a_{n-1}$.

11. Write the first five terms of a sequence if $a_1 = 81$ and $a_n = \frac{1}{3}a_{n-1}$.

12. Write the first five terms of a sequence if $a_1 = 64$ and $a_n = \frac{1}{2}a_{n-1}$.

13. Write the first five terms of a sequence if $a_1 = 4$ and $a_n = -3a_{n-1}$.

14. Write the first five terms of a sequence if $a_1 = 5$ and $a_n = -2a_{n-1}$.

15. Write the first six terms of a sequence if $a_1 = 40$ and $a_n = -\frac{1}{2}a_{n-1}$.

16. Write the first six terms of a sequence if $a_1 = 96$ and $a_n = -\frac{1}{2}a_{n-1}$.

17. The table shows the number of milligrams of medication in a patient's system at the end of each hour during surgery.

Hour	1	2	3	4
Milligrams	6400	1600	400	100

Find the common ratio and write a recursive formula to model the situation. Do not forget to include the first term.

18. The table shows the number of milligrams of medication in a patient's system at the end of each hour during surgery.

Hour	1	2	3	4
Milligrams	4096	1024	256	64

Find the common ratio and write a recursive formula to model the situation. Do not forget to include the first term.

19. The table shows the mass of a sample at the end of each day.

Day	1	2	3	4
Mass	625	500	400	320

Find the common ratio and write a recursive formula to model the situation. Do not forget to include the first term.

20. The table shows the mass of a sample at the end of each day.

Day	1	2	3	4
Mass	625	375	225	135

Find the common ratio and write a recursive formula to model the situation. Do not forget to include the first term.

21. A population has 64 organisms at the end of hour 1 and increases by 25% each hour. Write a recursive formula.

22. A population has 80 organisms at the end of hour 1 and increases by 50% each hour. Write a recursive formula to model the number or organisms.

23. A dose of medication administered to a patient contains 2500 mg at the end of hour 1 and decreases by 20% each hour. Write a recursive formula to represent how much medication is in the patient's system.

24. A dose of medication administered to a patient contains 3000 mg at the end of hour 1 and decreases by 25% each hour. Write a recursive formula to represent how much medication is in the patient's system.