Advanced Algebra
Homework 7.3
Series

Name _____

Period _____

SHOW ALL WORK.

Complete Parts A & B OR Parts B & C

PART A:

Write the series using Sigma Notation.

1. 7 + 10 + 13 + 16 + 19

2. 5 + 11 + 17 + 23 + 29

3. -1 + 1 + 3 + 5 + 7

Find the sum of the series.

4. $\sum_{i=1}^{6} 2i$

5. $\sum_{i=1}^{5} 7i$

6. $\sum_{n=0}^{4} n^3$

7. $\sum_{i=1}^{10} 1+3i$

8. $\sum_{i=1}^{8} (-3-2i)$

9. $\sum_{i=1}^{14} (14-6i)$

10. $\sum_{i=1}^{10} 5(2)^{i-1}$

11. $\sum_{i=1}^{8} 6(4)^{i-1}$

12. $\sum_{i=1}^{6} 3(-2)^{i-1}$

PART B:

Write the series using Sigma Notation.

13. 3 + 10 + 17 + 24 + 31 + …

14. -2 + 4 + -8 + 16 + -32 + . . .

Find the sum of the series.

15. $\sum_{k=1}^{4} 3k^2$

16. $\sum_{k=3}^{6} (5k-2)$

17. $\sum_{n=1}^{5} (n^2-1)$

18. $\sum_{i=1}^{22} (-9+11i)$

19. 2 + 6 + 10 + … + 58

20. -1 + 4 + 9 + … + 34

21. 44 + 37 + 30 + … + 2

22. $\sum_{i=1}^{6} 4(\frac{1}{4})^{i-1}$

23. $\sum_{i=1}^{12} 8(\frac{3}{2})^{i-1}$

PART C:

Write the series using Sigma Notation.

24. $\frac{1}{3}+\frac{1}{9}+\frac{1}{27}+\frac{1}{81}$

25. $\frac{1}{4}+\frac{2}{5}+\frac{3}{6}+\frac{4}{7}+\frac{5}{8}+\frac{6}{9}+\frac{7}{10}$

26. -1 + 2 + 7 + 14 + 23 + …

Find the sum of the series.

27. $\sum_{i=1}^{8}\frac{2}{i}$

28. $\sum_{k=1}^{6}\frac{k}{k+1}$

29. $\sum_{i=1}^{35}1$

30. $\sum_{i=3}^{9}(72-6i)$

31. $\sum_{i=0}^{7}12(-\frac{1}{2})^{i}$

32. $\sum_{i=0}^{10}(-4)^{i}$

Find the value of n.

33. $\sum_{i=1}^{n}(-5+7i)=486$

34. $\sum_{i=1}^{n}(10-3i)=-28$

35. $\sum_{i=1}^{n}(58-8i)=-1150$