Algebra 2CP
Can You?

Chapter 11

Can you, applying the formulas of this chapter and using a calculator…

➢ correctly use sequence and series vocabulary? (11-1 through 11-5)

1. Explain the difference between a sequence and a series.
2. Explain the difference between geometric and arithmetic.

➢ find a specific term or the next few terms in an arithmetic or geometric sequence? (11-1 and 11-3)

3. Find the next 5 terms in the arithmetic sequence: 35, 32, 29, …
4. Find the next 4 terms in the geometric sequence: -3, -15, -75

➢ find arithmetic and geometric means? (11-1 and 11-3)

5. Find the geometric means in this sequence: 5,____ ,____ ,____, 405
6. Find the arithmetic means in this sequence: -50,____ ,____ ,____, ____, -20

➢ find the sum of an arithmetic or geometric series? (11-2 and 11-4)

7. Find the sum of the arithmetic series: a_1=1.6, a_{14}= -24.4
8. Find the sum of the geometric series: a_1=24, $a_n=\frac{3}{64}$, $r=\frac{1}{2}$

➢ find the sum of a series (arithmetic, geometric or infinite geometric) written in sigma notation? (11-2, 11-4 and 11-5)

9. $\sum_{k=1}^{275} -5k+12$

10. $\sum_{n=1}^{\infty} 24\left(-\frac{1}{5}\right)^{n-1}$

➢ determine if an infinite series has a sum and find that sum when possible? (11-5)

11 $\sum_{n=1}^{\infty} 3\left(\frac{4}{3}\right)^{n-1}$

12. a_1=3, $r=-\frac{1}{5}$

➢ find the first term, last term, common difference or ratio, or number of terms for a given sequence or series? (11-1 through 11-5)

13. Find the last term of the arithmetic series with a_1=2 and S_{335}= -167165

14. Find S_{12} of the geometric series when a_1=5 and a_6=1215.

15. $\sum_{m=5}^{11} (m+400)$

16. Find the number of terms in the geometric series 2+8+32+128… with a sum of 43690.

17. Find the common difference of the arithmetic sequence with $a_1=5$ and $S_{11}=187$

18. $\sum_{j=1}^{\infty} 0.4(0.9)^{j-1}$

➢ apply the formulas of this chapter to solve word problems? (11-1 through 11-5)

19. There are 20 rows of seats on a concert hall: 25 seats are in the first row, 27 seats in the second row, 29 in the third row, and so on. If the price per ticket is $230, how much will be the total sales for a sold-out show?

20. The deer population is 2537 and is increasing at a rate of 1.025 per year. Assuming the population continues to grow at this rate, find the expected deer population after 10 years.

21. A child on a swing is given a big push. She travels 12 feet on the first back-and-forth swing, but only $\frac{5}{6}$ as far on each successive back-and-forth swing. How far (total distance) does she travel before the swing stops?

➢ write the first five terms of a recursive sequence? (11-6)

22. $a_1 = 4, \quad a_{n+1} = 3a_n - 2$

23. $a_1 = -1, \quad a_{n+1} = 2a_n + n$

➢ expand the powers of a binomial? (11-7)

24. $(a+3b)^4$ 25. $(x-y)^6$

➢ find the indicated term of an expanded binomial? (11-7)

26. Find the 4th term of $(x+2y)^7$

27. Find the 6th term of $(2y+z)^9$

Have you…

➢ reviewed your notes and practiced the vocabulary
➢ completed the practice tests in the book
➢ practiced additional problems