

Algebra II Chapter 11 Test Version 1

Remember to work only in pencil. You may use your textbook and your notes for this exam. Do not talk with others. I trust you to be as honest as possible. Indicate the version number (**1**) on your paper. Good luck!

- (#1) Write a rule for the sequence:
 $-6, -2, 2, 6, 10, \dots$
- (#2) An arithmetic sequence has $a_1 = 12$ and $d = -3$.
Write its rule and use it to find S_7 .
- (#3) An arithmetic sequence has $a_5 = -14$ and $a_9 = 6$.
Find a_{15} .
- (#4) Write a rule for the sequence:
 $-2, 8, -32, 128, \dots$
- (#5) A geometric sequence has $a_4 = 24$ and $a_7 = 3$.
Write its rule and use it to find S_6 .
- (#6) A geometric sequence has $a_3 = \frac{1}{4}$ and $a_7 = 64$.
Find a_2 .
- (#7) A geometric series has $a_1 = 12$ and $S = 60$.
Find r .
- (#8) Does $\sum_{n=1}^{\infty} \left(-2\left(\frac{2}{3}\right)^{n-1}\right)$ converge? If so, to what?
- (#9) Write the first five terms of the sequence:
 $a_1 = 12$
 $a_n = 2a_{n-1} - 4n$
- (#10) Write a recursive rule for the sequence:
 $11, 9, 6, 2, \dots$

Algebra II Chapter 11 Test Version 2

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- (#1) Write a rule for the sequence:
 $4, 11, 18, 25, \dots$
- (#2) An arithmetic sequence has $a_1 = 7$ and $d = 5$.
Write its rule and use it to find S_8 .
- (#3) An arithmetic sequence has $a_3 = 8$ and $a_8 = 23$.
Find a_{12} .
- (#4) Write a rule for the sequence:
 $81, -27, 9, -3, \dots$
- (#5) A geometric sequence has $a_3 = 12$ and $a_5 = 3$.
Write its rule and use it to find S_4 .
- (#6) A geometric sequence has $a_2 = \frac{1}{8}$ and $a_6 = 2$.
Find a_5 .
- (#7) A geometric series has $a_1 = 15$ and $S = 45$.
Find r .
- (#8) Does $\sum_{n=1}^{\infty} \left(4\left(\frac{4}{5}\right)^{n-1}\right)$ converge? If so, to what?
- (#9) Write the first five terms of the sequence:
 $a_1 = 4$
 $a_n = -2a_{n-1} + 3n$
- (#10) Write a recursive rule for the sequence:
 $3, 4, 6, 10, \dots$