

Watch. Practice. Understand. | Lesson 201

Pre Calculus 11,2 Arithmetic Sequence and Series

Watch the matching video: <https://www.youtube.com/watch?v=36yYJxeioOk>

Practice focus: Arithmetic sequences and series

Original extra practice matched to the listed lesson topic.

Name: _____ Date: _____ Show your reasoning and check units.

01 Find term 12 of 5, 8, 11,

02 Find the sum of the first 12 terms of 5, 8, 11,

03 An arithmetic sequence has $a_3 = 10$ and $a_8 = 30$. Find a_1 and d .

04 A theater has 20 seats in row 1 and 2 more per successive row. Find the total in 15 rows.

Worked answers | Lesson 201

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01 Find term 12 of 5, 8, 11,

$$a_n = 5 + 3(n - 1), \text{ so } a_{12} = 38.$$

02 Find the sum of the first 12 terms of 5, 8, 11,

$$S_{12} = 12(5 + 38)/2 = 258.$$

03 An arithmetic sequence has $a_3 = 10$ and $a_8 = 30$. Find a_1 and d .

$$5d = 20 \text{ gives } d = 4; a_1 + 2(4) = 10 \text{ gives } a_1 = 2.$$

04 A theater has 20 seats in row 1 and 2 more per successive row. Find the total in 15 rows.

$$\text{Last row: } 20 + 14(2) = 48. \text{ Total: } 15(20 + 48)/2 = 510 \text{ seats.}$$