

Variable Expressions and Sequences - Independent Practice Worksheet

Complete all the problems.

1) The sequence 15, 30, 45, 60 ... looks like 1, 2, 3, 4... except each term is 15 times as large. So, the formula is $15n$, where n represents the position of a term in the sequence. Check the first four terms.

2) Find the first four terms of the sequence defined below, where n represents the position of a term in the sequence. Start with $n = 2$.

$$2(5)^n$$

3) The formula for the n^{th} term of a geometric sequence is

$$a_n = a_1 r^{n-1}$$

Where a_n is the n^{th} term, a_1 is the first term, r is the common ratio, and n is the position of a term in the sequence 5, 15, 45, 135,

Find the value of a_n .

4) The sequence 10, 20, 30, 40... Looks like 1, 2, 3, 4... except each term is 10 times as large. So, the formula is $10n$, where n represents the position of a term in the sequence. Check the first four terms.

5) Find the first three terms of the sequence defined below, where n represents the position of a term in the sequence. Start with $n = 1$.

$$3(4)^n$$



6) The formula for the n^{th} term of a geometric sequence is

$$a_n = a_1 r^{n-1}$$

where a_n is the n^{th} term, a_1 is the first term, r is the common ratio, and n is the position of a term in the sequence 9, 18, 36, 72, Find the value of a_n .

7) The formula for the n^{th} term of a geometric sequence is

$$a_n = a_1 r^{n-1}$$

where a_n is the n^{th} term, a_1 is the first term, r is the common ratio, and n is the position of a term in the sequence 7, 21, 63, 189, 567 Find the value of a_n .

8) The sequence 24, 48, 72, 96,... looks like 1, 2, 3, 4,... except each term is 24 times as large. So, the formula is $24n$, where n represents the position of a term in the sequence. Check the first four terms.

9) Find the first five terms of the sequence defined below, where n represents the position of a term in the sequence. Start with $n = 1$.

$$5(3)^n$$

10) The sequence 17, 34, 51...looks like 1, 2, 3... except each term is 17 times as large. So, the formula is $17n$, where n represents the position of a term in the sequence. Check the first three terms.

