

# Sample Test Item Preview

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## General Information

**Related Benchmark:** [MAFS.912.F-BF.1.1](#)

**Reporting Category:** Functions: Building Functions

**Type:** EE: Equation Editor

**Difficulty:** N/A

**Question:**

Chantel drew a picture of her dog on a piece of paper that is 12 centimeters long. She used a copy machine to enlarge her drawing. She used the 115% setting to make each new copy. She then used each new copy to generate the next copy, using the same copier setting.

Enter a recursive formula that will give the length of each new copy.

**Possible Answer:**

$$a_1 = 12$$

$$a_n = 1.15 a_{n-1}$$

Other correct responses:

$$a_1 = 13.8$$

any equivalent recursive equation for  $a_n$

## Aligned Standards

Code	Description
<a href="#">MAFS.912.F-BF.1.1:</a>	<p>Write a function that describes a relationship between two quantities. ★</p> <ol style="list-style-type: none"> <li>Determine an explicit expression, a recursive process, or steps for calculation from a context.</li> <li>Combine standard function types using arithmetic operations. For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.</li> <li>Compose functions. For example, if <math>T(y)</math> is the temperature in the atmosphere as a function of height, and <math>h(t)</math> is the height of a weather balloon as a function of time, then <math>T(h(t))</math> is the temperature at the location of the weather balloon as a function of time.</li> </ol>