Name \_\_\_\_\_

## Block \_\_\_\_\_

## Algebra 1 Fractal Project: Alternate assessment

You may complete the following instead of the more difficult "Invent a Fractal" Project.

| 0 | 1                                       | 2 |  |
|---|---|---|--|
|   | Overall understanding not demonstrated. |   | All tables completed correctly and completely. |

For each of the fractals on the back, make a table showing the number of segments at each stage, the length of each segment, and the total length of all the segments. Use fractions and exponents. Include one line of the table for each stage shown, and one for stage 10 of the fractal. An example is given.

Fractal 1: Example

 $\frac{1}{3}$  $\frac{1}{3}$ 1 3 Stage 2 Stage 0 Stage 1

| Stage | Number<br>of segments | Length of each segment                     | Total length of all segments:<br>Fraction form | Total length of all segments:<br>Decimal form |
|-------|-----------------------|--|--|---|
| 0     | 1                     | 1  | 1  | 1   |
| 1     | 5                     | $\frac{1}{3}$                              | $\frac{5}{3}$                                  | 1.67  |
| 2     | $5^2 = 25$            | $\left(\frac{1}{3}\right)^2 = \frac{1}{9}$ | $\left(\frac{5}{3}\right)^2 = \frac{25}{9}$    | 2.78  |
| 10    | 5 <sup>10</sup>       | $(\frac{1}{3})^{10}$                       | $(\frac{5}{3})^{10}$                           | 165.38  |



