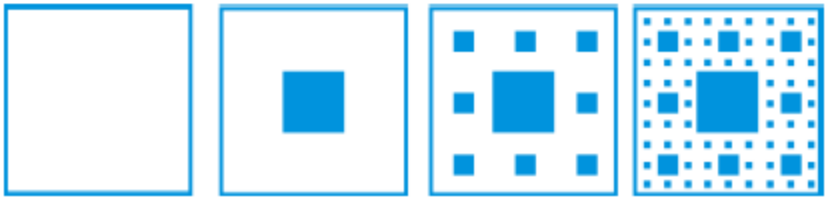
7.7 Geometry - Second Edition, Extension: Self-Similarity, Review Answers

1. 
2. Table 7.2:

	Number of Segments	*Length of each Segment*	*Total Length of the Segments*
Stage 0	1	1	1
Stage 1	2	$\frac{1}{3}$	$\frac{2}{3}$
Stage 2	4	$\frac{1}{9}$	$\frac{4}{9}$
Stage 3	8	$\frac{1}{27}$	$\frac{8}{27}$
Stage 4	16	$\frac{1}{81}$	$\frac{16}{81}$
Stage 5	32	$\frac{1}{243}$	$\frac{32}{243}$

3. There will be 2^n segments.
4. The length of each segment will be $\frac{1}{3^n}$ units.
5. 
6. Number of edges: 192
   Edge length: $\frac{1}{27}$
   Perimeter: $\frac{192}{27}$
7. 
8. Table 7.3:

	Stage 0	*Stage 1*	*Stage 2*	*Stage 3*
Color	0	1	9	73
No Color	1	8	64	512

9. Answers will vary. Many different flowers (roses) and vegetables (broccoli, cauliflower, and artichokes) are examples of fractals in nature.
10. Answers will vary.