

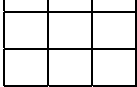




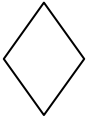
Growing Generations of Similar Figures

Name _____

Build growing generations of similar figures. Use the same pattern block units for each succeeding generation. For example, how many square pattern blocks will you use to create the next larger square for each generation? How many triangle blocks will you use to create the next larger triangle, etc.

Example: Generation 1  Generation 2  Generation 3  3

Hint: Each pattern block piece represents one unit of area

Generation	Scale Factor	Units of area (sketch)	Units of area (sketch)	Units of area (sketch)
1	1			
2	2			
3	3			
4	4			
5	5			
20	20			
x	x			

- 1) What is the rule you would use to figure out the 20th generation without building the generation?

- 2) How can you know if the generation you are building is similar (by mathematical definition) to the preceding generations?

- 3) Given that two figures are similar, complete the table below to show the area of the larger figure.

Area of small figure	Scale factor	Area of larger figure = area of smaller x scale factor²
5 cm ²	2	
5 cm ²	3	
5 cm ²	4	
4 yd ²	2	
4 yd ²	3	
4 yd ²	4	
10 in ²	2	
10 in ²	3	
10 in ²	4	

- 4) What happens to the area of a given figure when you double the dimensions?

- 5) What happens to the area of a given figure when you triple the dimensions?

- 6) What happens to the area of a given figure when you use a scale factor of 4?