Polygon Designs Part 1
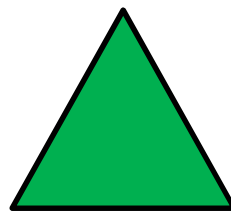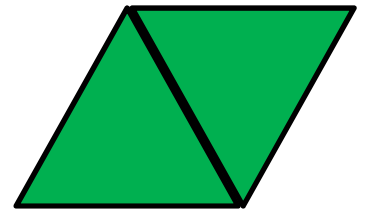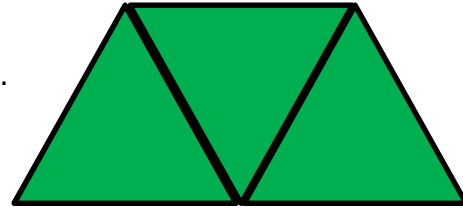
A. Build a polygon design with the green triangles following the pattern shown.

B. Create a table of values that records the Stage # and the perimeter of each design.

C. Predict the perimeter of the design with 100 triangles.

D. Draw a graph of the values in your table.

E. What is the rate of change for the perimeter?

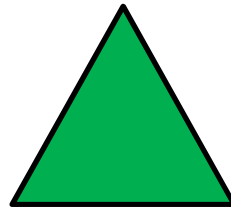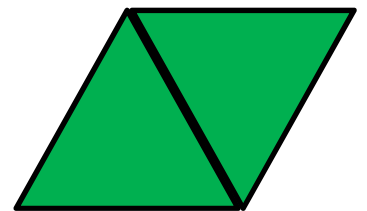F. Is this a proportional relationship? Explain.

Stage 1

Stage 2

Stage 3

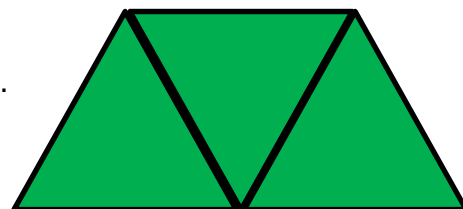
Polygon Designs Part 2

A. Build a polygon design with the yellow hexagons following the pattern shown.

B. Create a table of values that records the Stage # and the perimeter of each design.

C. Predict the perimeter of the design with 100 hexagons.

D. Draw a graph of the values in your table.

E. What is the rate of change for the perimeter?
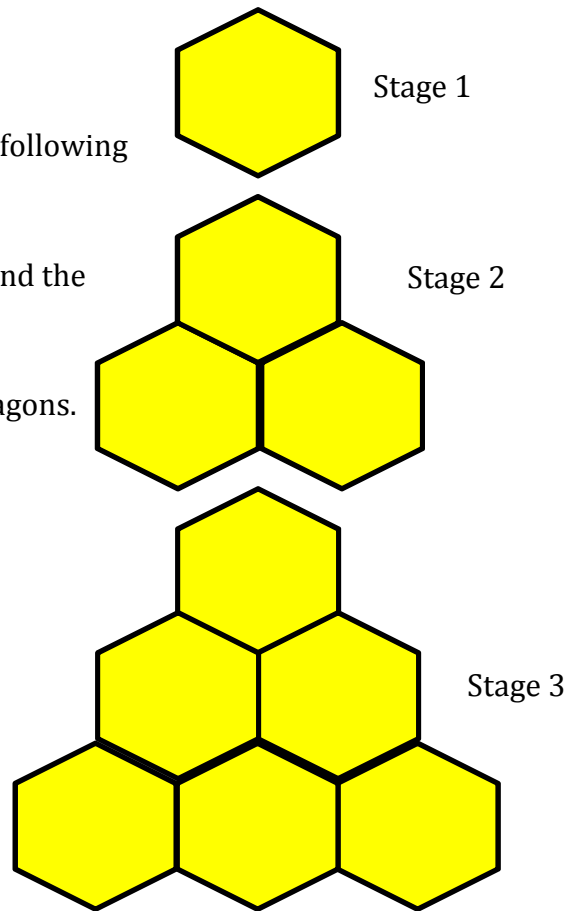
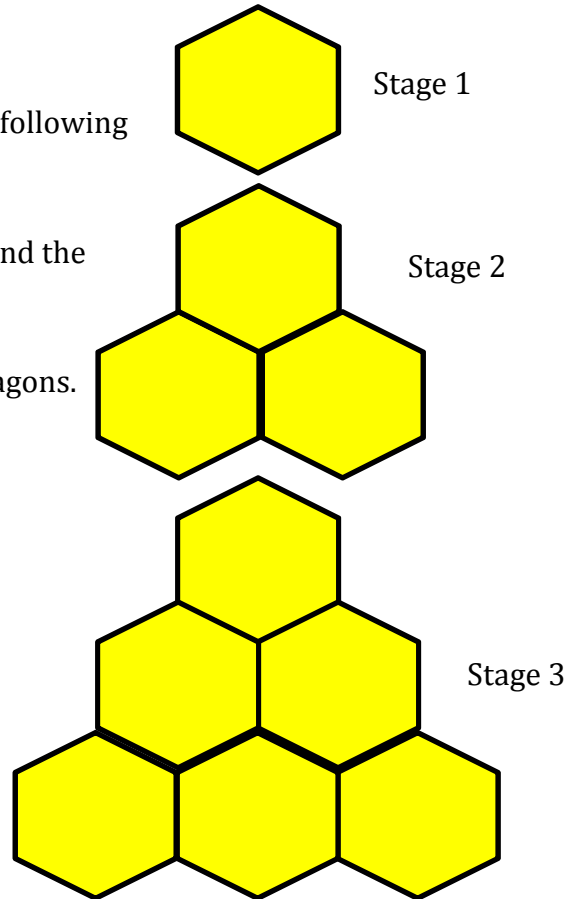F. Is this a proportional relationship? Explain.

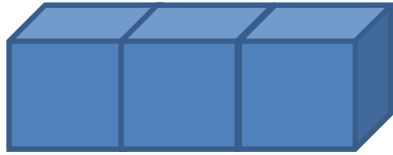Stage 1

Stage 2

Stage 3

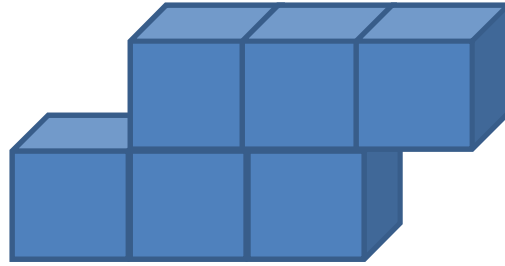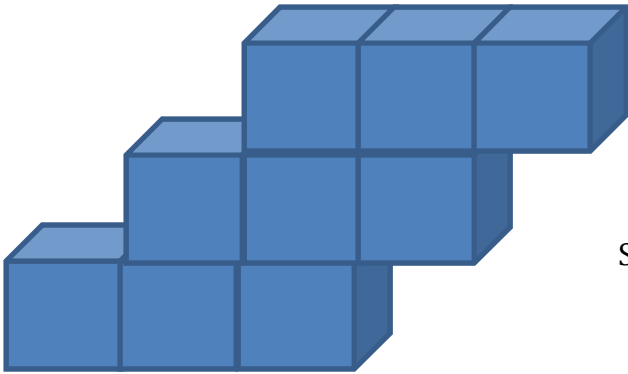
Building Staircases

A. Build a 3 unit staircase using snap cubes following the pattern shown.

Stage 1

Stage 2

Stage 3

B. Complete the table of values below for the staircase pattern.

Stage #	Volume	Surface Area
1		
2		
3		
4		
5		
10		
25		
n		

C. Predict the volume and perimeter for a staircase with 300 snap cubes.

D. Draw a graph for either the Volume data or the Surface Area data. You choose. ☺

E. Describe the rate of change for volume. Describe the rate of change for surface area.

F. Are these proportional relationships. Explain.