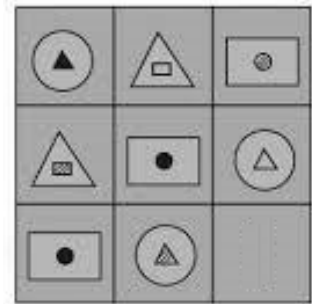
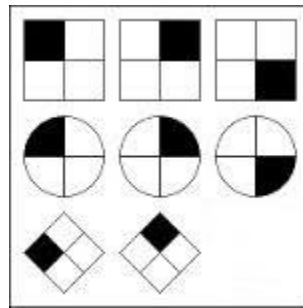
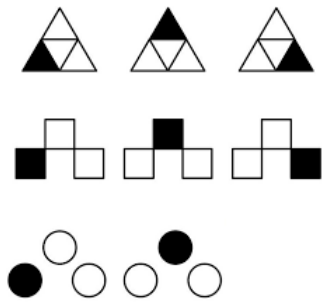


**In the Land of Patterns, Part 1**  
September 17, 2016

1. Complete the patterns by drawing what comes next.



2. Consider the sequence  $\{4, 5, 6, 7, \dots\}$ .

a. What are the next three terms?

b. What is the number in the 10<sup>th</sup> position?

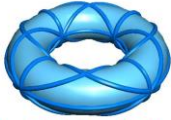
c. What is the number in the 27<sup>th</sup> position? How do you know?

3. Consider the sequence  $\{9, 10, 11, 12, \dots\}$ .

a. What are the next three terms?

b. What is the number in the 13<sup>th</sup> position?

c. What is the number in the 100<sup>th</sup> position? How do you know?



Chapel Hill Math Circle

**Beginners' Group**

4. Consider the sequence  $\{2, 4, 6, 8, \dots\}$ .
  - a. What are the next three terms?
  
  
  
  - b. What is the number in the 20<sup>th</sup> position?
  
  
  
  - c. What is the number in the 113<sup>th</sup> position? How do you know?
  
5. Consider the sequence  $\{1, 3, 5, 7, \dots\}$ .
  - a. What are the next three terms?
  
  
  
  - b. What is the number in the 10<sup>th</sup> position?
  
  
  
  - c. What is the number in the 37<sup>th</sup> position? How do you know?
  
6. Consider the sequence  $\{2, 5, 4, 10, 6, 15, \dots\}$ .
  - a. What are the next three terms?
  
  
  
  - b. What is the number in the 10<sup>th</sup> position?
  
  
  
  - c. What is the number in the 25<sup>th</sup> position? How do you know?
  
7. Create your own pattern with numbers, shapes, dragons, or anything you like. Challenge your neighbor to find the next object in the pattern.