Grade 12 Biology

Name: _____

Date: _____

Evolution Lab

'Normal' Distribution – Polygenic Traits

Often a visible trait is a combination of several or many ('poly') genes. Consequently the trait is not a simple 'on' or 'off'; it is a blend of several alleles.

A simple analogous representation of this is rolling two dice.   So this label is designed to show the bell curve distribution of a trait that can be measured for example, your shoe size or the length of a bird's beak, etc.

Take two dice

Roll them; add up the sum of the values shown on the top of the die; eg: $2 + 5 = 7$

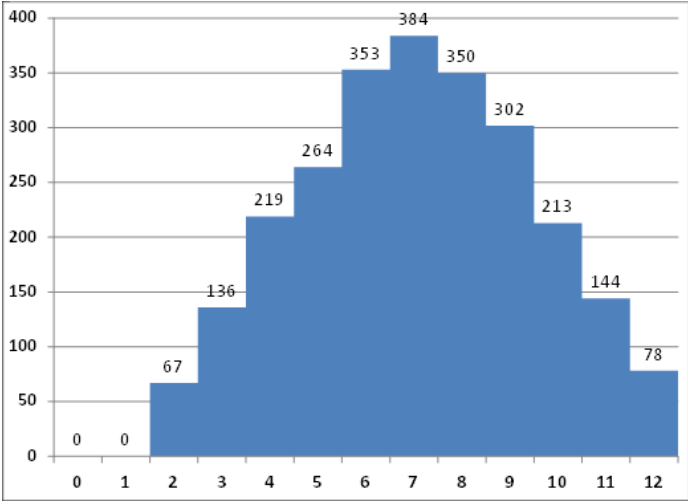Record your results in the tally and frequency table below. Do this for 50 rolls

Sum	Tally (tick marks)	Count (Frequency)
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

CAUTION: Technically this is not a normal distribution mathematically but it demonstrates the effect

Now graph your results in a 'histogram', and see how close you lucked into to be normal in a 'bell shape'
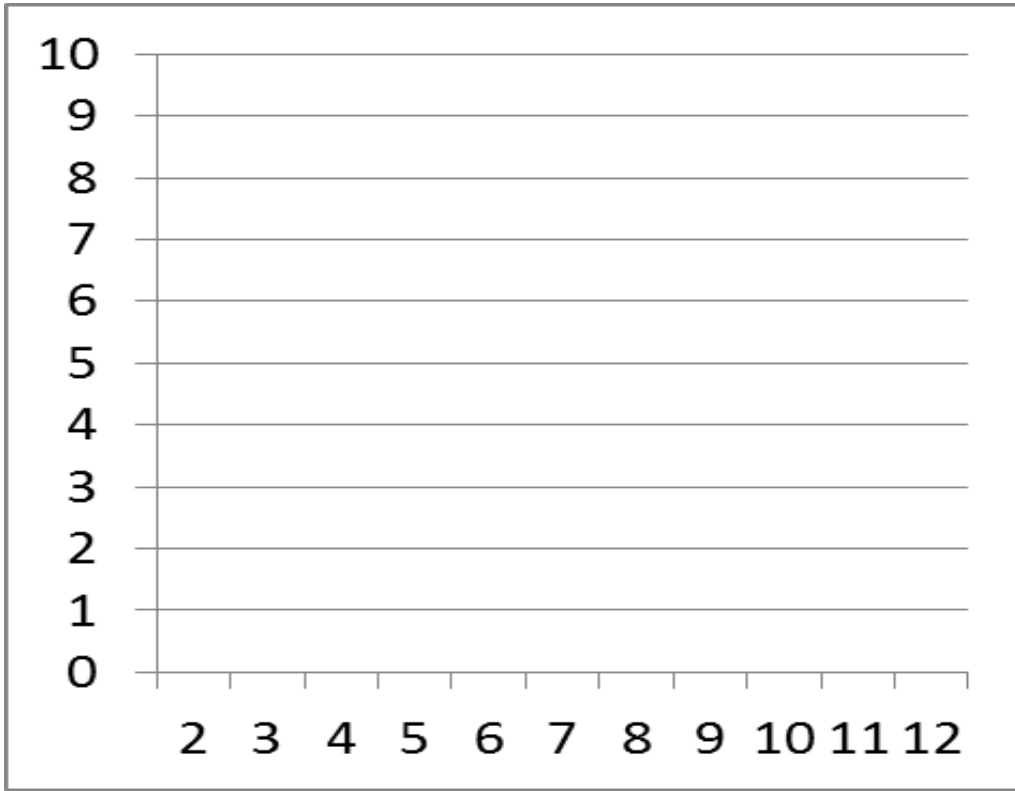
Here is one that I got; why is mine so different than yours?

Hand it in