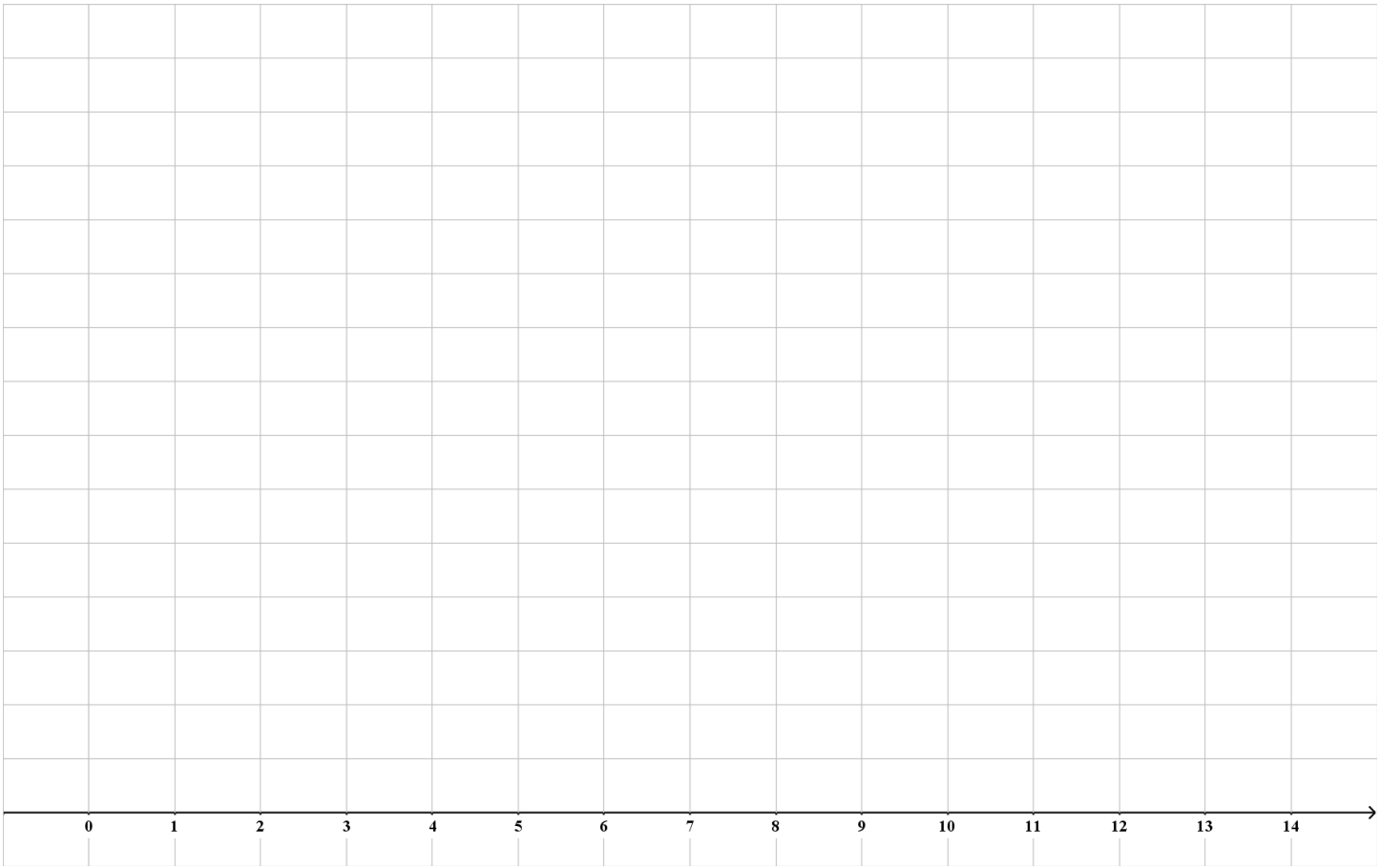
Probability with Dice Name _____

If you are given two dice to roll (with the numbers 1 through 6 on each), predict what the most common sum of the two dice will be. _____

Predict the least common sum of the two dice. _____

Explain why you chose these numbers as your predictions.

Now you will work with a partner to roll your two dice at least 20 times and record the sums in a line plot below.



Describe the shape of your line plot.

What sum occurred the most frequently for you and your partner? _____

What sum occurred the least frequently for you and your partner? _____

Was your prediction correct? Why or why not?

To determine the probability of each sum occurring, we need to write out a sample space of all possibilities of the two rolls. Do this below.

What is the probability of rolling a sum of 3? _____

How often did rolling a sum of 3 occur on your line plot? _____

Were these two numbers close to being the same? How could you make them become even closer?

What is the probability of rolling a sum of 7? _____

How often did rolling a sum of 7 occur on your line plot? _____

HOMEWORK: Feel free to use the sample space you created above or create a new one to answer the following questions. Be sure to write all of your fractions in simplest form.

What is the probability of rolling an even sum with two dice? _____

What is the probability of rolling *at least* a sum of 8 with two dice? _____

What is the probability of rolling two dice and getting a difference that is no more than 3? _____

Create a situation of rolling two dice where the probability would be zero.

Create a situation of rolling two dice where the probability would be $\frac{1}{6}$.