Name: _____

Chance Experiments (Equally Likely Outcomes)

A single 12-sided dice with numbers from 1 through 12 on each face rolled at random.

1.) List the sample space for this experiment.

2.) Are the events of the dice landing on an even number the same as an odd number equally likely? Explain your answer.

3.) Are the events of the dice landing on a multiple of 2 the same as a multiple of 3 equally likely? Explain your answer.

4.) Are the events of the dice landing on a number divisible by 3 the same as a number divisible by 5 equally likely? Explain your answer.

5.) Complete the probability chart below.

Event	Rolling a 2	Rolling a 15	Rolling a 7 *or* 11	Rolling a Single-Digit Number	Rolling a Double-Digit Number
Probability (as a fraction)					

1.) List the sample space for this experiment.

$$\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12\}$$

2.) Are the events of the dice landing on an even number the same as an odd number equally likely? Explain your answer.

Yes. The probability of the dice landing on an even number is $\frac{6}{12}$ and the probability of the dice landing on an odd number is also $\frac{6}{12}$.

3.) Are the events of the dice landing on a multiple of 2 the same as a multiple of 3 equally likely? Explain your answer.

No. The probability of the dice landing on a multiple of 2 is $\frac{6}{12}$, but the probability of the dice landing on a multiple of 3 is $\frac{4}{12}$.

4.) Are the events of the dice landing on a number divisible by 3 the same as a number divisible by 5 equally likely? Explain your answer.

No. The probability of the dice landing on a number divisible by 3 is $\frac{4}{12}$, but the probability of the dice landing on a number divisible by 5 is $\frac{2}{12}$.

5.) Complete the probability chart below.

Event	Rolling a 2	Rolling a 15	Rolling a 7 *or* 11	Rolling a Single-Digit Number	Rolling a Double-Digit Number
Probability (as a fraction)	$\frac{1}{12}$	$\frac{0}{12}$ or 0	$\frac{2}{12}$ or $\frac{1}{6}$	$\frac{9}{12}$ or $\frac{3}{4}$	$\frac{3}{12}$ or $\frac{1}{4}$