## Algebra 2

## 8-07 Binomial Distributions

## Probability Distribution

- that gives the probability of $\qquad$ of the possible outcomes in a probability experiment
- The sum of the probabilities = $\qquad$


## Construct a Probability Distribution

1. Make a table of $\qquad$
2. Make a $\qquad$
The spinner is divided into three equal parts. Let $x$ be a random variable that represents the sum when the spinner is spun twice. Make a table and draw a histogram showing the probability distribution for $x$.



What is the probability that the sum of the two spins is odd?

## Binomial Distributions

- Two outcomes: $\qquad$ or $\qquad$
- Independent $\qquad$ (n)
- Probability for success is the $\qquad$ for each trial ( $p$ )

$$
P(k \text { successes })={ }_{n} C_{k} p^{k}(1-p)^{n-k}
$$

Calculate the probability of flipping a coin 20 times and getting 3 heads.
$\qquad$

At college, $53 \%$ of students receive financial aid. In a random group of 9 students, what is the probability that exactly 5 of them receive financial aid?

Draw a histogram of binomial distribution of students and find the probability of fewer than 3 students receiving financial aid.


In your school, 30\% of students plan to attend a movie night. You ask 5 randomly chosen students from your school whether they plan to attend the movie night.
a. Draw a histogram
b. Most likely

c. Probability at most 2 attend

