

2.6 – Binomial Probability (Experiments)

– **binomial probability (experiments)** → used to find probabilities where there are ___ possible outcomes where key words to look for to know when to use this technique are _____

Ex: What is the probability of getting exactly 4 questions correct on a 5-question multiple-choice (A – D possible answer choices) quiz if you guess at every question? →

Binomial Exp “Formula” → ${}^{\text{total trials}}C_{\text{successes}} \cdot (\text{successes prob})^{\text{success power}} \cdot (\text{failure prob})^{\text{failures power}}$

Examples: Find each probability using the Binomial Experiment “Formula”.

1.) If a family has 4 children, what is the probability that they have exactly 3 boys?	2.) Suppose that a coin is tossed 5 times, what is the probability of getting exactly 2 heads?
3.) A die is rolled 3 times, what is the probability of getting exactly three 5's?	4.) Tarin and Sam are playing a certain board game, the probability of Tarin winning a game is 75%. If they play 5 games, then what is the probability that Sam will win exactly 3 games?
5.) Suppose that when hockey star Jamarie Jones takes a shot, he has a $\frac{1}{7}$ probability of scoring a goal. He takes 6 shots in a game one night.	
a.) What is the probability that he will score exactly 1 goal?	b.) What is the probability that he will score at most 2 goals?
	c.) What is the probability that he will score at least 4 goals?