Name

Bozeman Write-a-Long: Probability

Search for this video on YouTube: Probability in Genetics: Multiplication and Addition Rules (10:35)

**Multiplication Rule:** For independent events in a sequence. A hint is when the word \_\_\_\_\_\_\_\_ is used.

What are the odds of flipping a coin 5 times and getting tails on every flip? Show the work to solve this, plus the answer:

*Pause the video after Mr. Andersen reads the questions.* ***Try to solve them problems first****, and then see if you got them right.*

* What is the probability of rolling “snake eyes” on two dice?
* What is the probability of picking a 3 out of a deck, returning it to the deck, and then picking a king out of the deck?

*Genetics problems- fill out how to solve each problem.*

* In a cross between pea plants that are heterozygous for purple flower color (Pp), what is the probability that the offspring will be homozygous recessive?
* In a cross between AaBbCc x AaBBCC, what is the probability that the offspring will be AaBbCC?

**Addition Rule:** For mutually exclusive events. A hint in the question is when the word \_\_\_\_\_\_\_\_ is used.

What are the odds of flipping a coin and getting either a heads or a tails?

*Pause the video after Mr. Andersen reads the questions.* ***Try to solve them problems first****, and then see if you got them right.*

* What is the probability of rolling a 2 or a 5 on a six-sided dice?
* What is the probability of picking a 5 or a heart out of a deck of 52 playing cards?

*Genetics problems- fill out how to solve each problem.*

* In a cross between pea plants that are heterozygous for purple flower color (Pp), what is the probability of the offspring being a heterozygote?
* In a cross between AaBbCc x AaBBCC, what is the probability that the offspring will be AABbCc or AABBCC?

**YOUR TURN! Complete the problem. Make sure to stop in if you have any questions.**

A female organism has the following genotype: AABbccDd. (all traits show complete dominance—A is dominant

A male organism has the following genotype: AabbccDD. over a, B is dominant over b, etc.).

A student says that organism that results from this cross has a 25% chance of showing the same PHENOTYPE as the female parent organism. Is the student correct? Explain—show your work and be ready to discuss how to arrive at the answer tomorrow.