



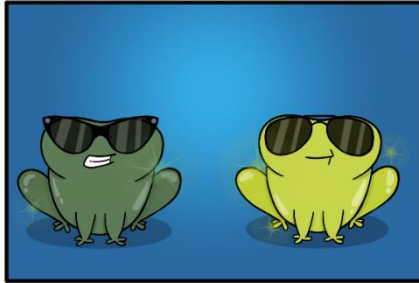
NAME: _____

Amoeba Sisters Video Recap: Hardy-Weinberg Equilibrium

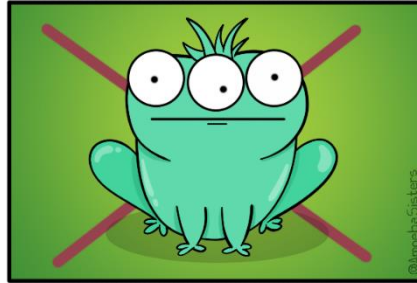
Please list one of the assumptions of Hardy Weinberg Equilibrium next to each illustration.

ASSUMPTIONS OF HARDY-WEINBERG EQUILIBRIUM

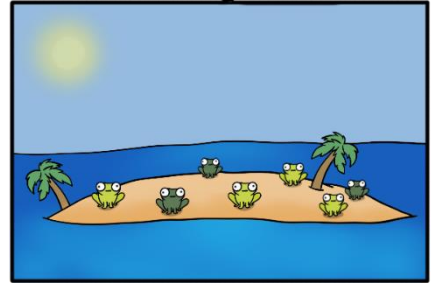
1. No



2. No

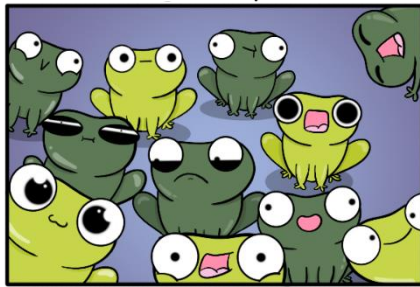


3. No



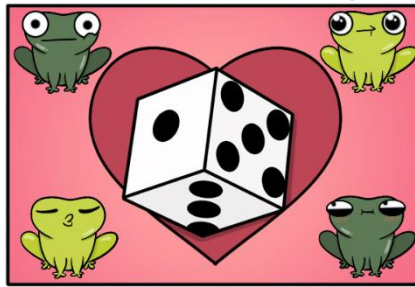
4.

Population



5.

Mating



6. What is a **genotype**?

In a species of frogs, frogs that have at least one dominant allele "G" (dark green) have a dark green phenotype. The recessive allele "g" is for light green. Please write below each frog whether they are **homozygous recessive**, **homozygous dominant**, or **heterozygous**.



7. _____ 8. _____ 9. _____

For the following questions, assume a population of the frogs are in Hardy Weinberg Equilibrium.

10. If the G allele frequency is 0.6, what **percentage** of the alleles are "G?" _____

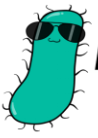
11. If the G allele frequency is 0.6, what is the **allele frequency** of "g?" _____

12. If the G allele frequency is 0.6, what **percentage** of the alleles are "g?" _____

13. If this population were to remain in Hardy Weinberg Equilibrium, which of the following is correct?

- A) Since it is at equilibrium, the population cannot grow.
- B) The population can still grow, but the allele frequencies remain constant each generation.
- C) The population can still grow, but the allele frequencies may change in the new generation.





Amoeba Sisters | Video Recap

NAME: _____

Amoeba Sisters Video Recap: *Hardy-Weinberg Equilibrium*

14. With the Hardy Weinberg Equilibrium equation shown below, please write what each value represents next to the label.

$$p + q = 1$$

Arrows point to the p and q terms in the equation.

15. With the Hardy Weinberg Equilibrium equation shown below, please write what each value represents next to the label.

$$p^2 + 2pq + q^2 = 1$$

Arrows point to the p^2 , $2pq$, and q^2 terms in the equation.

In a species of frogs, frogs that have at least one dominant allele “G” (dark green) have a dark green phenotype. The recessive allele “g” is for light green. **In a population that is in Hardy Weinberg equilibrium, 88% of the frogs are dark green.** Please use this information to solve #16-18 and show all work. It is likely you will need a calculator. *We suggest solving all values in the space below first before answering the questions.*

16. What is the allele frequency of the “G” allele?

17. What percentage of the frog population is heterozygous?

18. If this frog population had 20,000 frogs, how many of the frogs would be homozygous dominant?

