1. A large population of rabbits are found to have either pointy ears or floppy ears. Genetic analysis indicates that pointy ears is dominant to floppy ears. Researchers surveyed the population and recorded frequencies of their ear shapes. The results are in the data table below.

|  |  |
| --- | --- |
| PHENOTYPE FREQUENCES IN A RABBIT POPULATION | |
| Phenotype | Number of Individuals |
| Pointy ears | 15,679 |
| Floppy ears | 5,492 |

Assuming the population is in Hardy-Weinberg equilibrium, what proportion of future populations is expected to be homozygous for the floppy eared allele? Give your answer as a value between 0 and 1, rounded to two decimal places.

1. Male zebrafish carry two Z sex chromosomes, while females carry one Z and one X sex chromosome. Located on the Z chromosome is a gene for long ventral fins. Long ventral fins are dominant to short ventral fins.

Zebrafish have either 4 stripes or 5 stripes. The allele for 4 stripes is dominant to the allele for 5 stripes and is carried on an autosome.

A male zebrafish with long ventral fins and 5 stripes is crossed with a female zebrafish with short ventral fins and heterozygous for 4 stripes. What proportion of the progeny would be expected to be long ventral finned males with 4 stripes? Give your answer as a fraction or decimal to the nearest hundredth.