SpongeBob Genetics Quiz Name _____

1. For each genotype below, indicate whether it is a heterozygous (He) OR homozygous (Ho).

TT _____ Pp _____ dd _____ Ff _____ Tt _____ FF _____

Which of the genotypes listed above would be considered purebred? _____

2. In Squidward's family, a blue body color (B) is dominant to green (b). Determine the phenotype for each genotype below based on this information.

BB _____ Bb _____ bb _____

3. If tall eyeballs (T) are dominant to short eyeballs(t), give the genotypes that are possible for members of Mr. Krabbs' family.

Tall eyeballs = _____ Short eyeballs = _____

4. SpongeBob is known for his big round eyes (R), which is dominant over an oval eye shape (r). If he is heterozygous for his round eye shape and marries a woman with oval eye shape, what type of eyes might the kids have?

A. List the genotypes for each:

Heterozygous round eyes - _____ Oval eyes - _____

B. Complete the Punnett square to show the possibilities that would result if SpongeBob had children with an oval-eyed woman.

C. List the possible genotypes and phenotypes for their children.

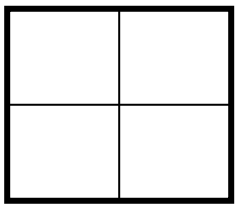
D. What are the chances of a child with a round eye shape? ____%

E. What are the chances of a child with an oval eye shape? ____%

5. Patrick recently married Patti, a cute girl he met at a local dance. He is considered a purebred for his tall head shape (T), which is dominant over a short head (t). If Patti is a short-headed woman, what type of heads would their children have?

A. List the genotypes for each: Patrick - _____ Patti - _____

B. Complete the Punnett square to show the possible offspring.



C. Which type of head is most likely: tall or short? Explain.

D. Would the children be considered purebreds? Explain.

SpongeBob Genetics Quiz

Answer Key:

1. Ho - TT, dd, FF; He - Pp, Ff, Tt; Purebred = TT, dd, FF

2. BB - blue, Bb - blue, bb - green

3. Tall eyeballs - TT, Tt; short eyeballs - tt

4. A. Heterozygous round = Rr, Oval = rr
B. See square at right
C. Rr - round & rr - oval
D. 50%
E. 50%

5. A. Patrick - TT, Patti = tt
B. See square at right
C. Tall head is most likely, since all genotypes that result would represent a tall head (100%).
D. The children would not be considered purebreds, since they would each have a dominant gene and a recessive gene.