

## 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 \_\_\_\_\_

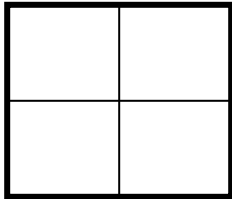
3. If tall eyeballs (T) are dominant to short eyeballs(t), give the genotypes that are possible for members of Mr. Krabbs' family.

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 results 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.

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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.