

Bikini Bottom – Dihybrid Practice

Name _____

Use the chart to identify the genotypes of the following traits:

| Trait | Dominant Gene | Recessive Gene |
|------------|-----------------|----------------|
| Body Shape | Squarepants (S) | Roundpants (s) |
| Body Color | Yellow (Y) | Blue (y) |
| Eye Shape | Round (R) | Oval (r) |
| Nose Style | Long (L) | Stubby (l) |

- Heterozygous round eyes, blue body _____
- Hybrid eye shape, purebred roundpants _____
- Purebred roundpants, heterozygous long nose _____

SpongeBob's aunt, who is a roundpants, has a cute stubby nose. She has finally found the sponge of her dreams and is ready to settle down. Her fiancé always comments on how adorable her nose is (he says it reminds him of his mother's – aww, how sweet!). They wonder what the chances are of that trait being passed on. Her fiancé is a purebred squarepants and has purebred long nose.



- Identify the genotypes of the aunt and her fiancé.

Aunt – Roundpants, Stubby Nose = _____

Fiancé – Purebred Squarepants, Long Nose = _____

- What are the possible gamete combinations for each person? Aunt – _____ Fiancé – _____
- What are the possible genotypes for their children? _____

- What are the genotypes of SpongeBob, who is heterozygous for his yellow body color and his squarepants, and his wife SpongeSusie, who is blue and has roundpants?

SpongeBob = _____ SpongeSusie = _____

- What are the possible gamete combinations for each person?

SpongeBob = _____ SpongeSusie = _____

- Complete the Punnett square based on the information provided in #7-8 and then answer the questions.

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- What is the chance of a blue baby? _____
- What is the chance of a squarepants? _____
- What is the chance of a blue squarepants? _____
- What is the chance of a purebred recessive for both traits? _____