

SpongeBob Squarepants PROB SET #2 – Dihybrid Crosses!

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

- 1) Heterozygous round eyes, blue body _____
- 2) Hybrid eye shape, purebred roundpants _____
- 3) Purebred roundpants, heterozygous long nose _____
- 4) Heterozygous body color, hybrid nose style _____

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)

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.



- 5) Identify the genotypes of the aunt and her fiancé.

Aunt – Roundpants, Stubby Nose = _____
Fiancé – Purebred Squarepants, Long Nose = _____

- 6) What are the possible **gamete combinations** for each person? Aunt = _____ Fiancé = _____

- 7) What are the possible genotypes for their children? _____

- 8) 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 = _____

- 9) What are the possible **gamete combinations** for each person?

SpongeBob = _____ SpongeSusie = _____

- 10) Complete the Punnett square based on the information provided in #8-9 and then answer the questions.

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