

Genetics Problems – DIHYBRID CROSSES

1. In pea plants tall plant height (T) is dominant to short plant height (t) and green pea pod color (G) is dominant to yellow pea pod color (g). Fill out a dihybrid Punnett Square when the following two parent plants are crossed:

- a. one parent is homozygous dominant for plant height and heterozygous for pea pod color; and the other parent is homozygous dominant for plant height and pea pod color.
- b. one parent is homozygous recessive for plant height and heterozygous for pea pod color; and the other parent is homozygous dominant and homozygous recessive for pea pod color.
- c. one parent is heterozygous for both plant height and pea pod color; and the other parent is homozygous recessive for plant height and heterozygous for pea pod color.

2. In humans brown eye color (B) is dominant to blue eye color (b) and brown hair color (H) is dominant to blonde hair color (h). Fill out a dihybrid Punnett Square when the following parents are crossed.

- a. one parent is homozygous recessive for both traits; and the other parent is homozygous recessive for eye color and heterozygous for hair color.
- b. One parent is heterozygous for both traits; and the other parent is homozygous dominant for both traits.

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- d. one parent is homozygous recessive for plant height and heterozygous for pea pod color; and the other parent is homozygous dominant and homozygous recessive for pea pod color.
- e. one parent is heterozygous for both plant height and pea pod color; and the other parent is homozygous recessive for plant height and heterozygous for pea pod color.

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- c. one parent is homozygous recessive for both traits; and the other parent is homozygous recessive for eye color and heterozygous for hair color.
- d. One parent is heterozygous for both traits; and the other parent is homozygous dominant for both traits.