Name _____ Date _____ Period _____

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Mendelian Inheritance

Biology

Show your work in the blank space. Use units and complete sentences where asked.

1. In pea plants, P = purple flowers (dominant) and p = white flowers (recessive). Complete the table.

Genotype	Homozygous or heterozygous?	Phenotype
PP		
Pp		
pp		

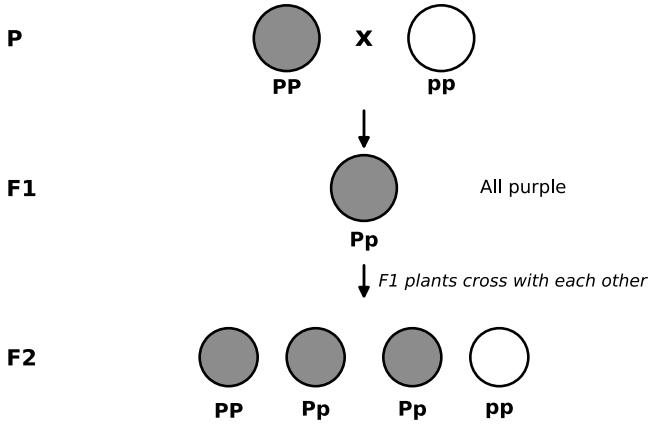
2. In one of Mendel's crosses, the F2 generation had 882 plants with inflated pods and 299 plants with constricted pods.

(a) Find the ratio of inflated to constricted pods (divide the first number by the second).

(b) How many constricted pods would exactly a 3 : 1 ratio predict for 1,181 plants? Is the result close to 3 : 1?

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3. The diagram shows a cross of true-breeding purple (PP) and white (pp) pea plants.

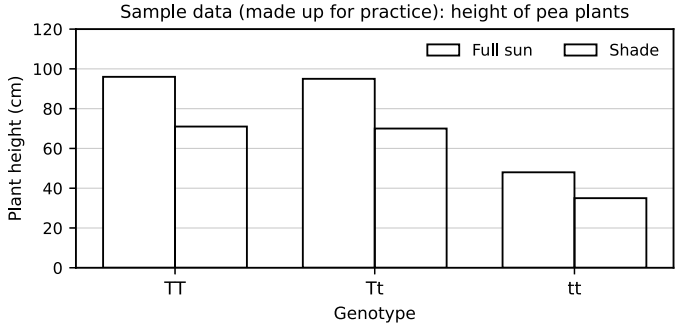


(a) What fraction of the F2 plants are white?

(b) What fraction of the purple F2 plants are heterozygous?

(c) Why do the white flowers come back in the F2 when all F1 plants are purple?

4. The graph shows made-up practice data for pea plant height.



Does the graph support the claim that height depends only on genotype? Use evidence.

5. A classmate says, "A dominant allele is the one that is most common in a population." Explain what is wrong with this.

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