

**Reviewing Key Concepts**

**Short Answer** *On the lines provided, answer the following questions.*

1. State Mendel's principle of dominance.

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2. Which two combinations of alleles could produce a trait controlled by a dominant allele?

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3. What combination of alleles could produce a trait controlled by a recessive allele?

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4. Explain segregation of alleles, using pea plant traits in your example.

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**Reviewing Key Skills**

5. **Applying Concepts** Explain how Mendel's experiments would have been different if he had not worked with true-breeding plants.

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6. **Comparing and Contrasting** Explain the difference between cross-pollination and self-pollination in plants.

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7. **Calculating** One fourth of the plants resulting from a certain cross are expected to show a trait controlled by a recessive allele. If 675 plants resulting from the cross display a trait controlled by a dominant allele, how many plants will show the trait controlled by the recessive allele?

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8. **Applying Concepts** If one of the plants used in the  $F_1$  cross had  $TT$  alleles and was combined with a plant with  $Tt$  alleles, would the trait controlled by the recessive allele have been produced in the resulting  $F_2$  generation? Explain your answer.

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