40. **PEA PLANTS** In pea plants, the gene $G$ is for green pods, and the gene $y$ is for yellow pods. Any gene combination with a $G$ results in a green pod. Suppose two pea plants have the same gene combination $Gy$. The Punnett square shows the possible gene combinations of an offspring pea plant and the resulting pod color.

a. What percent of possible gene combinations of the offspring plant result in a yellow pod?

b. Show how you could use a polynomial to model the possible gene combinations of the offspring.

41. **MULTIPLE REPRESENTATIONS** In humans, the gene $s$ is for straight thumbs, and the gene $C$ is for curved thumbs. Any gene combination with a $C$ results in a curved thumb. Suppose each parent has the same gene combination $Cs$.

a. **Making a Diagram** Make a Punnett square that shows the possible gene combinations inherited by a child.

b. **Writing a Model** Write a polynomial that models the possible gene combinations of the child.

c. **Interpreting a Model** What percent of the possible gene combinations of the child result in a curved thumb?

42. **SHORT RESPONSE** In ball pythons, the gene $N$ is for normal coloring, and the gene $a$ is for no coloring, or albino. Any gene combination with an $N$ results in normal coloring. Suppose one parent python has the gene combination $Na$ and the other parent python has the gene combination $aa$. What percent of the possible gene combinations of the offspring result in an albino python? Explain how you found your answer.

43. **FOOTBALL STATISTICS** During the 2004 regular season, the San Diego Chargers’ quarterback Drew Brees completed 65.5% of the passes he attempted. The area model shows the possible outcomes of two attempted passes.

a. What percent of the possible outcomes of two attempted passes results in Drew Brees’s throwing at least one complete pass? Explain how you found your answer using the area model.

b. Show how you could use a polynomial to model the possible results of two attempted passes.