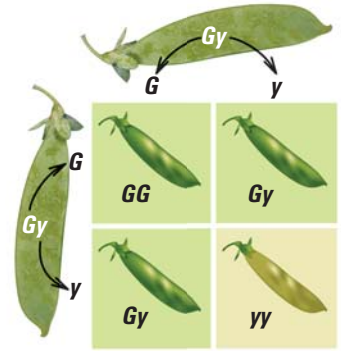


## PROBLEM SOLVING

### EXAMPLE 4

on p. 571  
for Exs. 40–42

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.



- What percent of possible gene combinations of the offspring plant result in a yellow pod?
- Show how you could use a polynomial to model the possible gene combinations of the offspring.

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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  $Cs$ .

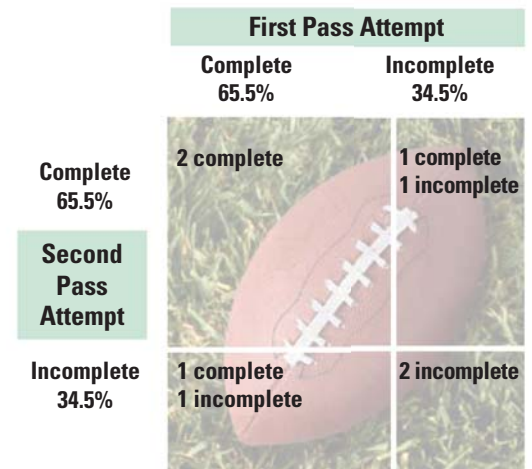
- Making a Diagram** Make a Punnett square that shows the possible gene combinations inherited by a child.
- Writing a Model** Write a polynomial that models the possible gene combinations of the child.
- Interpreting a Model** What percent of the possible gene combinations of the child result in a curved thumb?

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42. **STAR 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.

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



### REVIEW

TAKS Workbook