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8. Describe briefly:
   a. The genotype of a person who has sickle-cell anemia.
   b. The genotype of a person with a normal phenotype who has a child with sickle-cell anemia.
   c. The *total* number of different alleles of the β-globin gene that could be carried by five children with the same mother and father.

12. One of your fellow students tells you that there is no way to know that the spotted and dotted patterns on the lentils in Fig. 3.4a (p. 48) are due to codominant alleles (C^S and C^D) of a single gene *C*. He claims that spotting could be controlled by gene *S*, with a completely dominant allele *S* that directs spotting and a recessive allele *s* that directs no spots. Likewise, he claims that dotting could be controlled by a separate gene *D*, with a completely dominant allele *D* that directs dotting and a recessive allele *d* that directs no dots. Is he correct, or does the information in Fig. 3.4a argue against this idea? Explain.

14. In clover plants, the pattern on the leaves is determined by a single gene with multiple alleles that are related in a dominance series. Seven different alleles of this gene are known; an allele that determines the absence of a pattern is recessive to the other six alleles, each of which produces a different pattern. All heterozygous combinations of alleles show complete dominance.