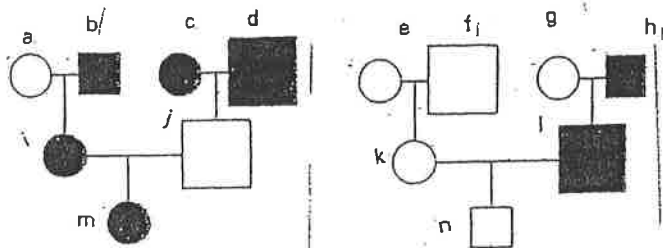


D. APPLICATION

Redheaded dwarfs

One type of dwarfism in humans is controlled by a single gene that affects the growth of cartilage in the limbs. Individuals with this gene are normal in all respects, including head and body size, except that their arms and legs are very short. Suppose that a red-haired dwarf of this type marries a dark-haired dwarf, also of this type. The following chart shows the immediate blank symbols indicate red hair; dark symbols indicate dark hair).



- 1 a. Is the gene for this type of dwarfism dominant or recessive? _____
 b. How do you know? _____

- 2 a. Is the gene for red hair dominant or recessive to the gene for dark hair? _____
 b. How can you tell? _____

- 3 Using the symbols R and r for hair coloring and D and d for height, indicate for each box (male) and circle (female) on the chart the genotype of the individual with respect to dwarfism and hair color. Use a question mark for any gene that cannot be identified.

a. _____	h. _____
b. _____	i. _____
c. _____	j. _____
d. _____	k. _____
e. _____	l. _____
f. _____	m. _____
g. _____	n. _____