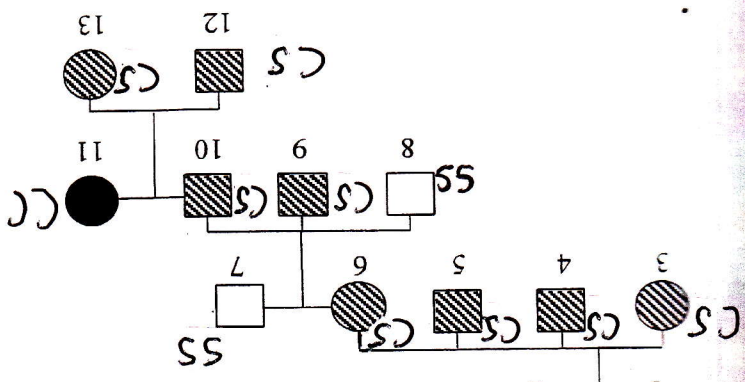
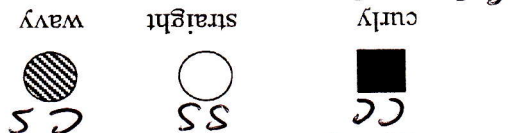


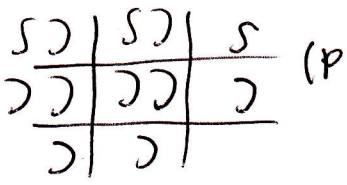
PROBLEMS INVOLVING THE INTERMEDIATE PATTERN OF INHERITANCE

Try each of these problems. Set out your work clearly in your notebook.

1. The following pedigree is for a family showing the inheritance of curly and straight hair.



e)



a. Use the symbols C = curly hair S = straight hair to show the genotypes of individuals 1 to 13

- b. What is the chance that the next child born to (1) and (2) will have wavy hair? 100%
- c. What is the chance that the next child born to (1) and (2) will have curly hair? 0%
- d. What is the chance that the next child born to (10) and (11) will have curly hair? 50%
- e. What is the chance that the next child born to (10) and (11) will have straight hair? 0%

Two genes, N and M control a form of anaemia called thalassaemia. The effect of different genotypes is given in this table:

Genotype	Phenotype
NN	normal
NM	Minor anaemia
MM	Major anaemia (usually the child dies at a young age)

a. What would be the ratio of different genotypes expected amongst the children of a man and woman who both had thalassaemia minor? 1 NN : 1 NM : 2 NM

b. What chance is there that the couple could have a child with thalassaemia major? 25%

