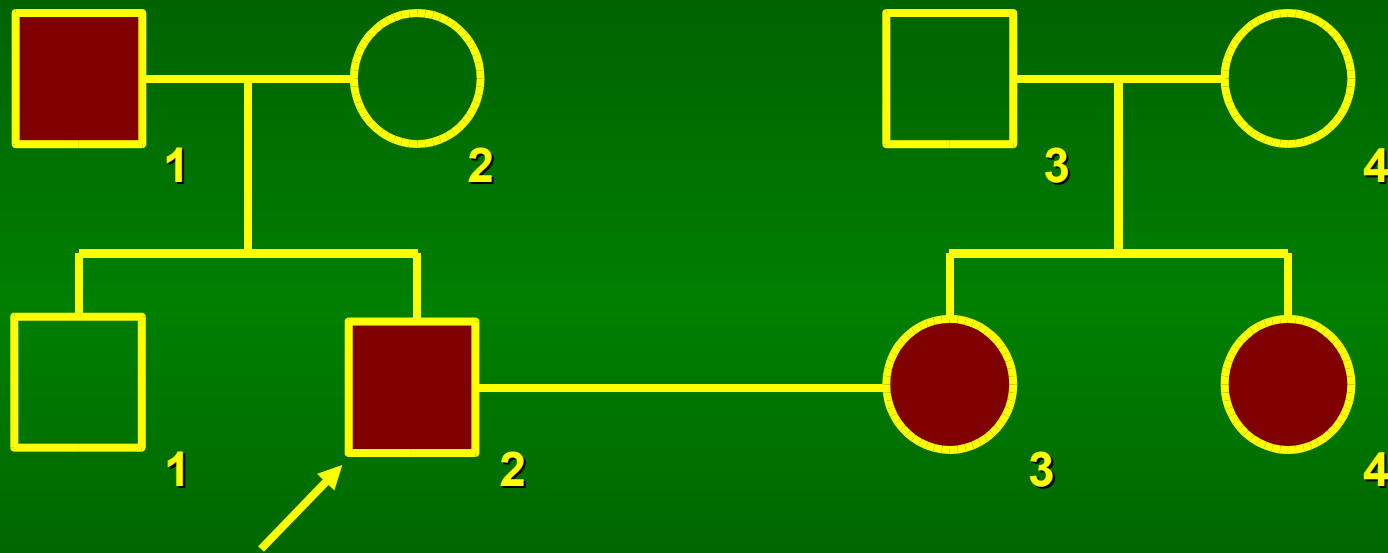




GENETIC COUNSELLING

DEAFNESS

Page 22, Task 21



„Left family“ - AD

RISK = 50%

„Right family“ - AR

Linkage in genetic counselling

Page 22, Task 22

| | |
|-------------------|--------------|
| father | A3A26B12B17 |
| mother | A10A26B18B40 |
| daughter with AGS | A3A26B17B40 |

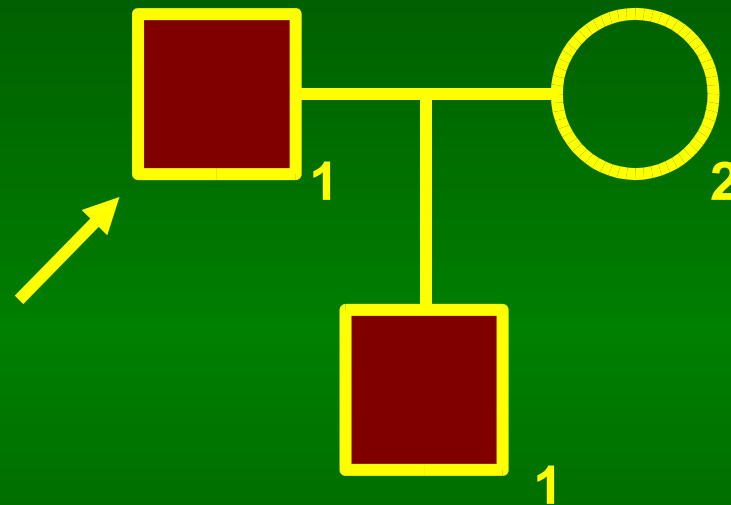
a) A26 B12
A10 B18

c) A3 B17
A26 B40

b) A26 B12 or A10 B18
A26 B40 A3 B17

Colour blindness

Page 19, Task 11



father - $X^{rg}Y$

mother - $X^{rg}X^{+}$

son - $X^{rg}Y$

a) 50%

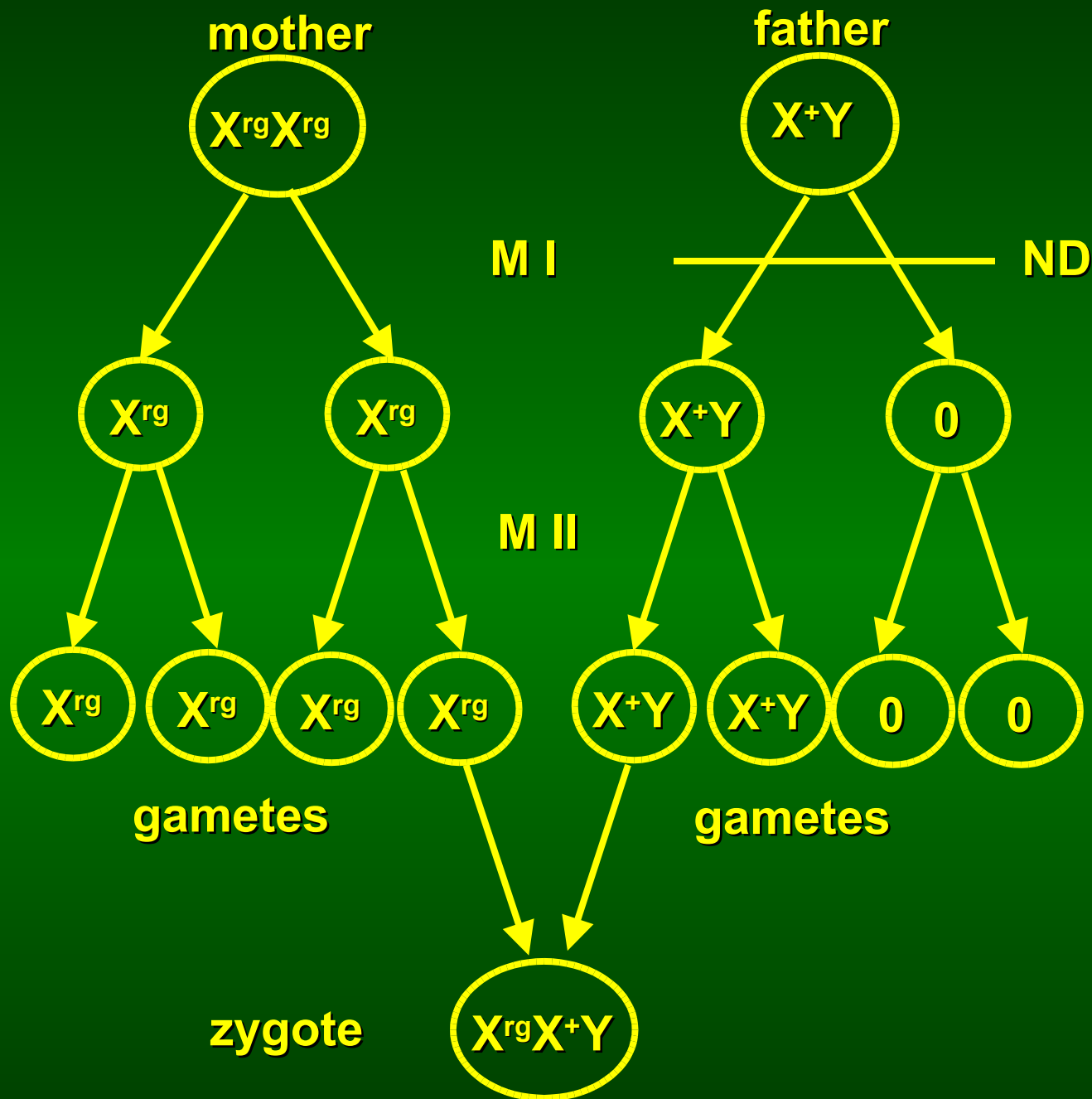
b) 50%

Colour blindness

The colour blind mother and the father with normal colour vision have a son with normal vision whose karyotype is 47,XXY. Both parents have normal karyotype. In which parent and at which meiotic division did non-disjunction occur? (Write all possible explanations)

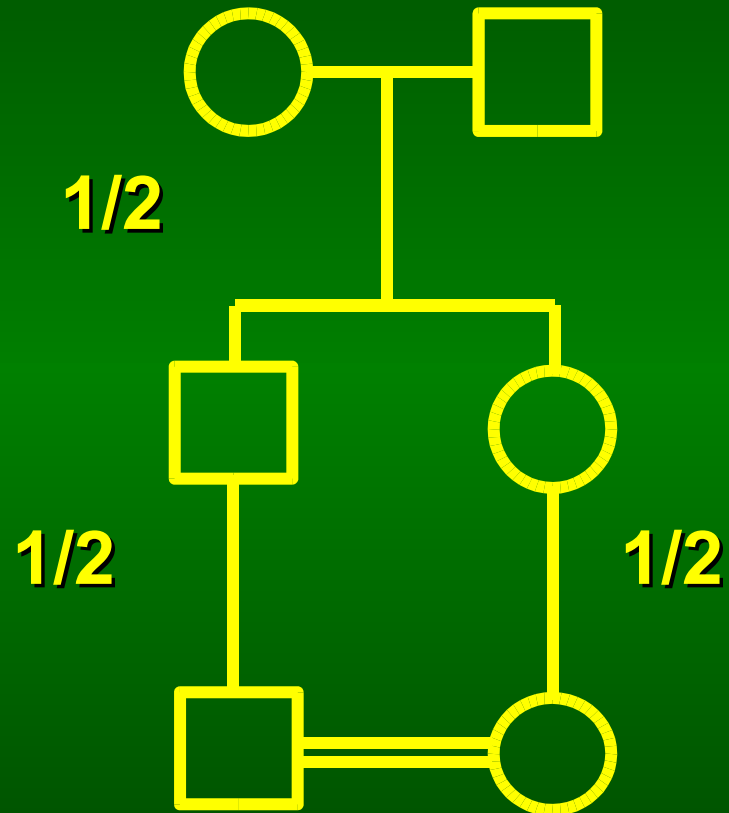
rg - mutant allele

+ - wild (normal) allele



Consanguineous marriage

Page 21, Task 16 a)



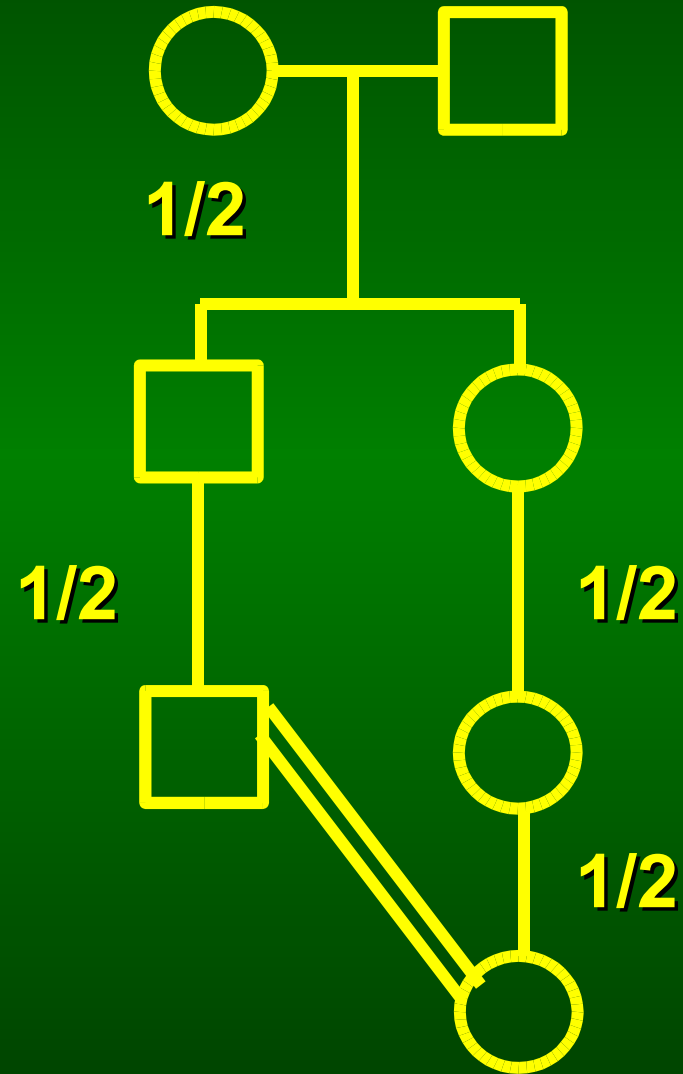
Coefficient of consanguinity = $1/8$

Consanguineous marriage

Page 21, Task 16 b)

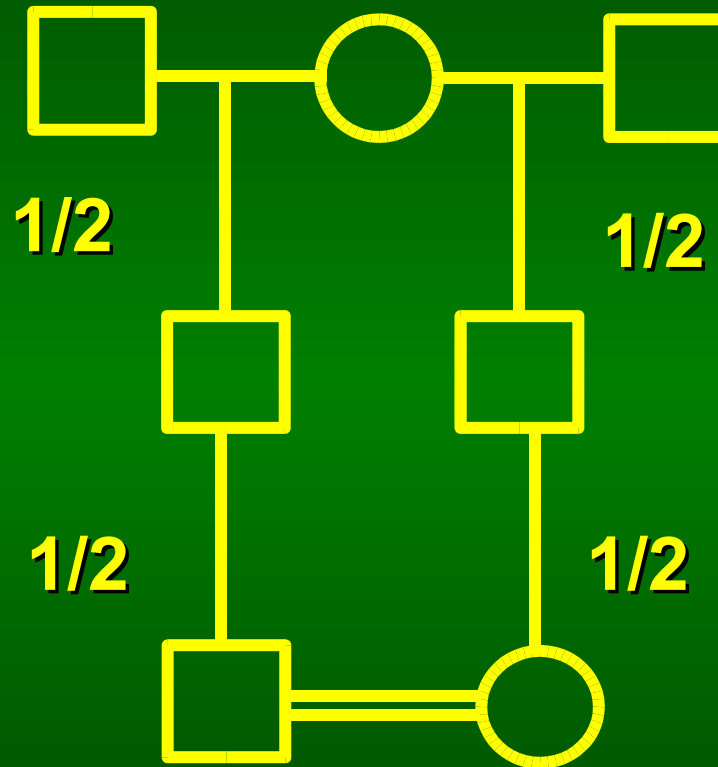
**Coefficient of
consanguinity**

= 1/16



Consanguineous marriage

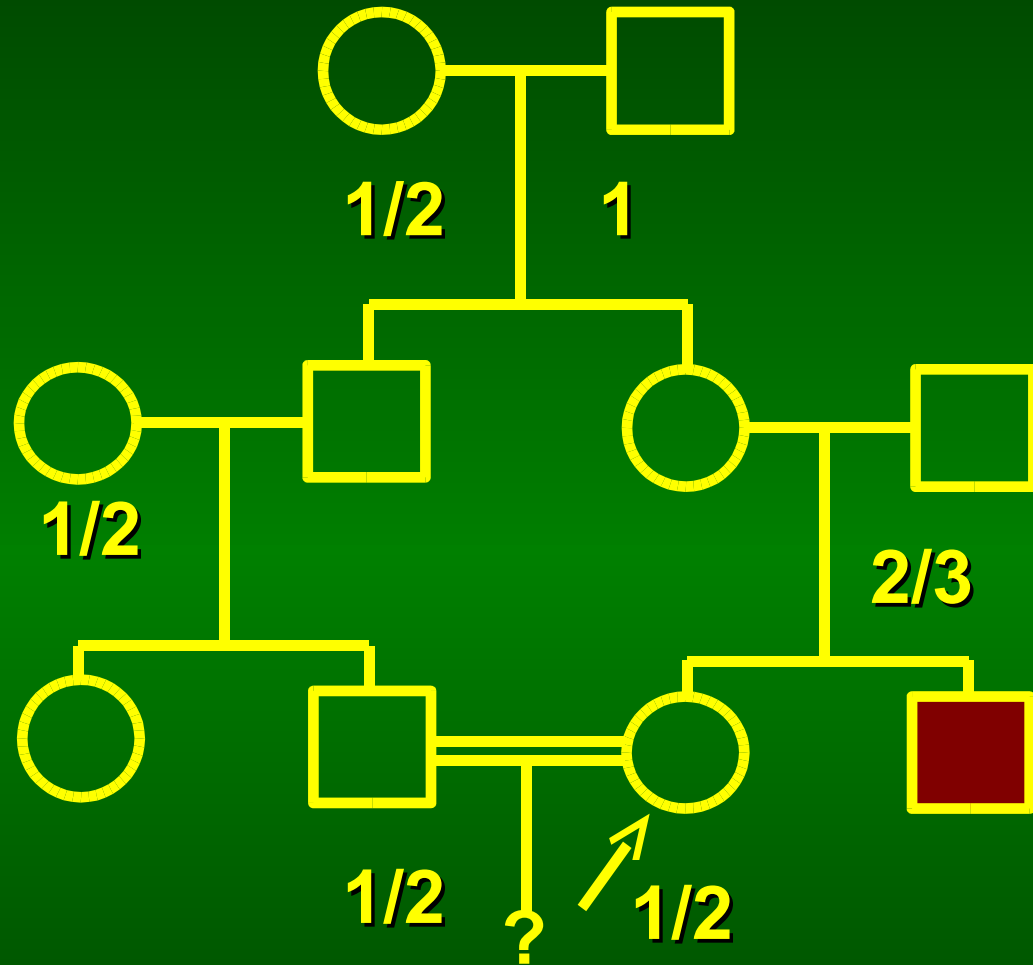
Page 21, Task 16 c)



Coefficient of consanguinity = $1/16$

Hyperphenylalaninemia (HPA)

Page 21, Task 19

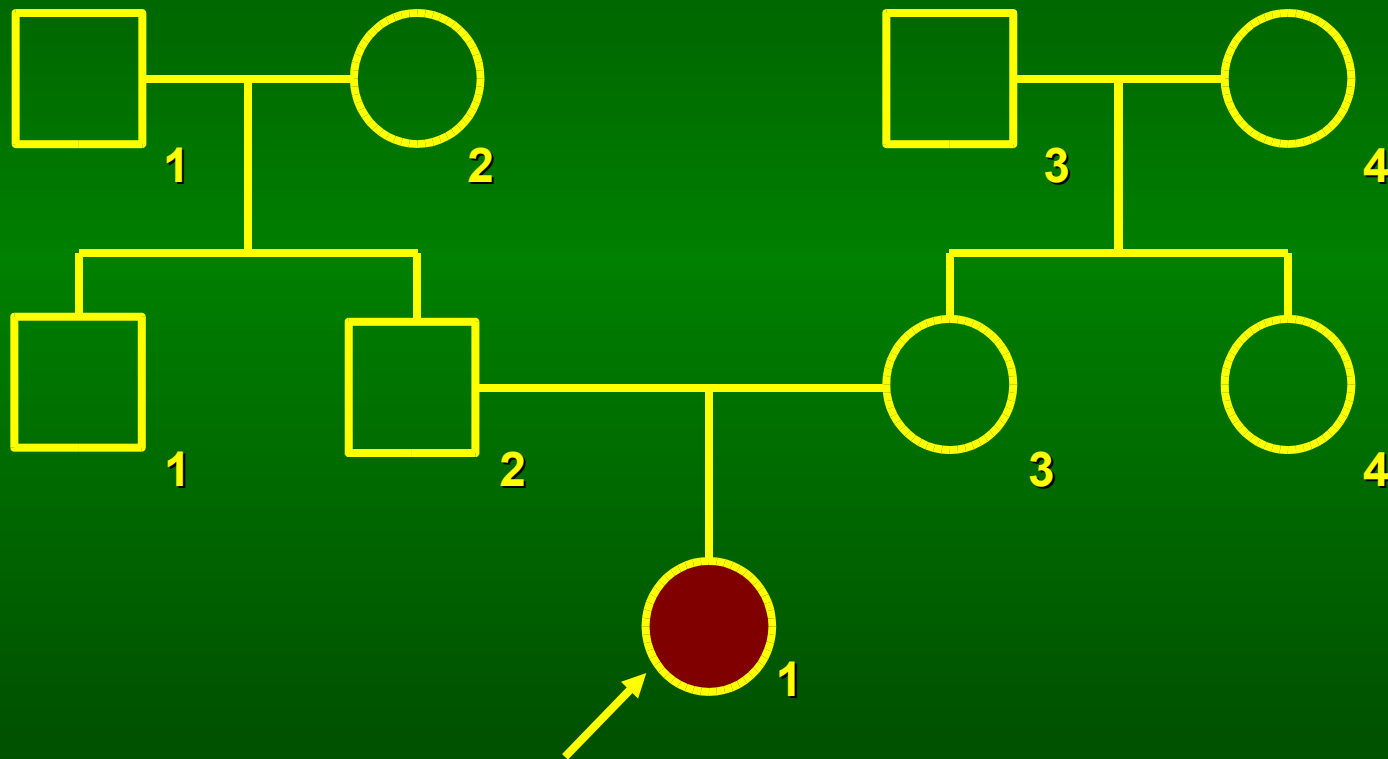


Result: $1/2 \cdot 1 \cdot 2/3 \cdot 1/2 \cdot \underline{1/2 \cdot 1/2} = 1/24$ (cca 4%)

↓
1/4

Evaluate the possibility of different modes of inheritance

Page 16, Task 4

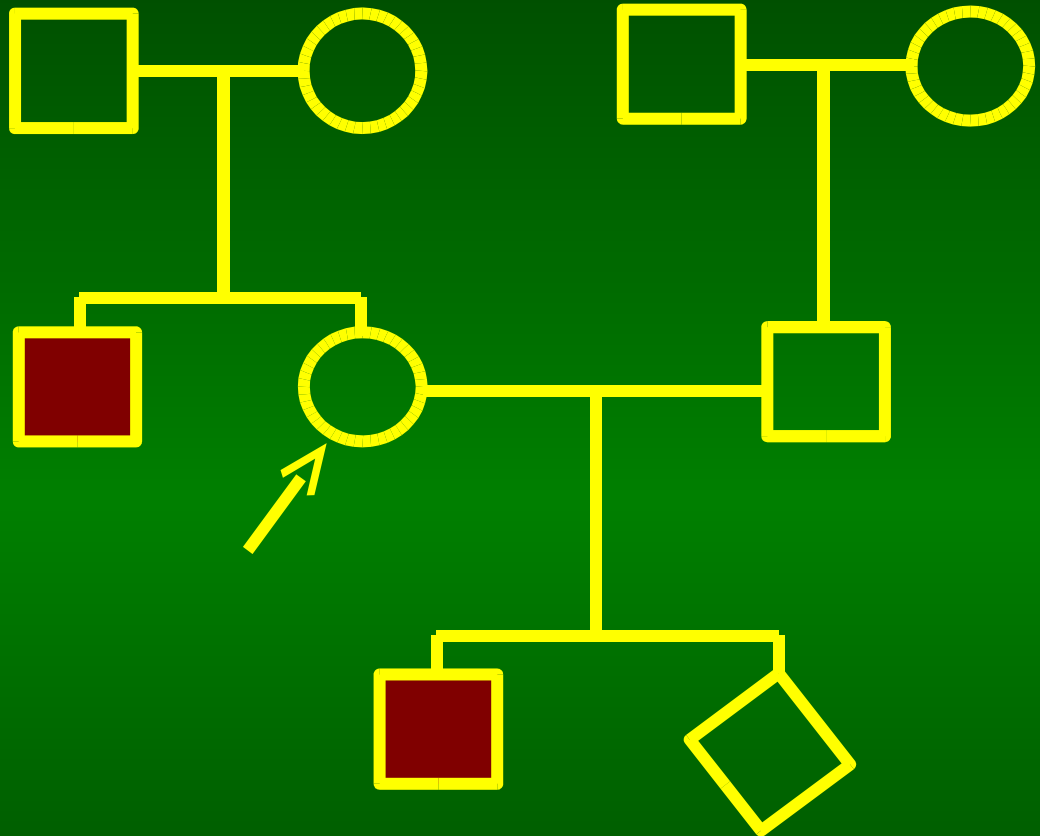


HAEMOPHILIA A

Page 18, Task 10

Result:

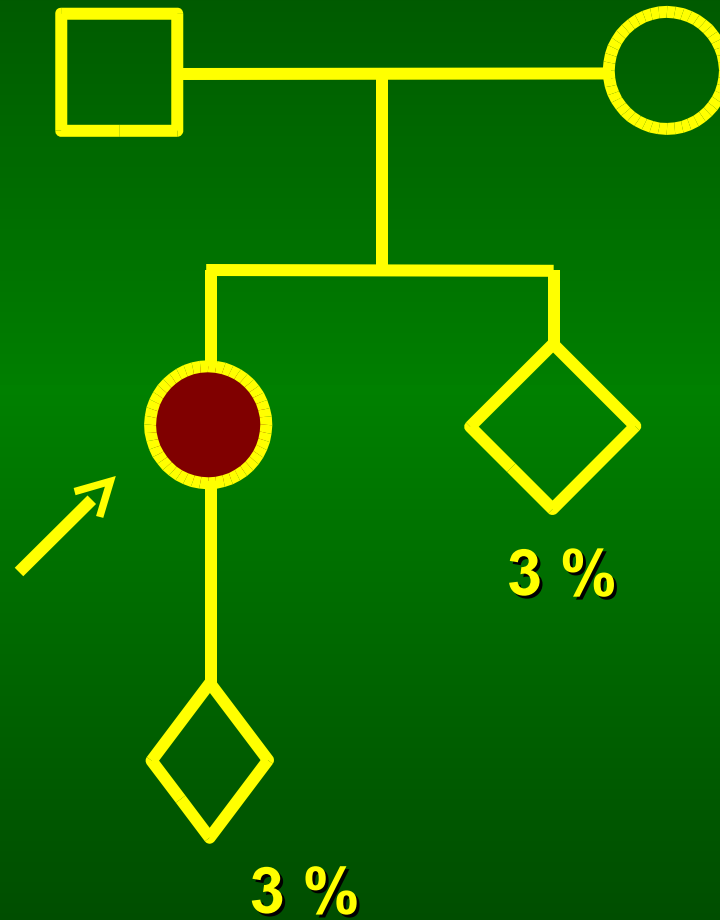
- a) 25%
- b) 50%
- c) 0%



Neural tube defect (NTD)

Population frequency = 0,0009_

Page 94, Task 9



Neural tube defect (NTD)

Population frequency = 0,0009_

Page 94, Task 9

