

Part VI: Are you now ready for a challenge?

"Sex-linked traits" come from genes that are located on the X chromosome, and not on the Y. (Remember women are XX and men are Xy). For example, baldness is a recessive sex-linked trait. Now you write the allele letter as a part of the X chromosome, like this:

$X^B$  or  $X^b$ ; Y stays blank.

The players: B is not bald, b is bald.

Genotype:	$X^B X^B$	$X^B y$	$X^B X^b$	$X^b y$	$X^b X^b$
Phenotype:	Not bald female	Not bald male	Not bald "carrier" female	Bald male	Bald female

Example:

	$X^B$	$X^B$
$X^b$	$X^B X^b$	$X^B X^b$
y	$X^B y$	$X^B y$

Crossing a not bald female with a bald male results in the following:

$\frac{1}{2} X^B X^b$  — Not bald carrier female.

$\frac{1}{2} X^B y$  — Not bald male.


1. Cross (mate) a bald male to a carrier female.

a) Write the genotype probabilities.

b) Write the phenotype probabilities.

2. Cross a not bald male to a carrier female.

a) Write the genotype probabilities.

b) Write the phenotype probabilities.


If you're a guy, which member of your family should you look at to tell if you are going to go bald? Why? (Use a Punnett Square in your answer).