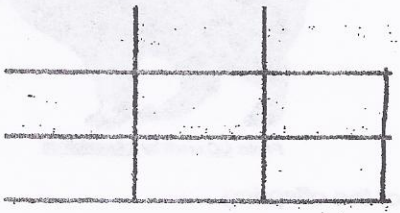
BLOOD TYPE AND INHERITANCE

Name _____

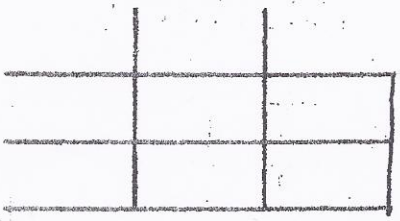
In blood typing, the gene for type A and the gene for type B are codominant. The gene for type O is recessive. Using Punnett squares, determine the possible blood types of the offspring when:

1. Father is type O, Mother is type O



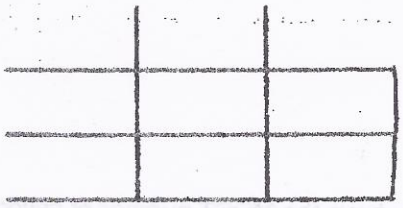
_____% O
_____% A
_____% B
_____% AB

2. Father is type A, homozygous; Mother is type B, homozygous



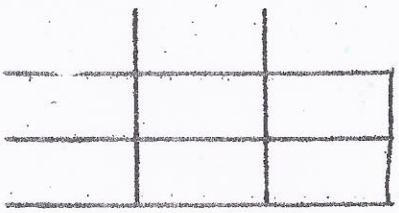
_____% O
_____% A
_____% B
_____% AB

3. Father is type A, heterozygous; Mother is type B, heterozygous



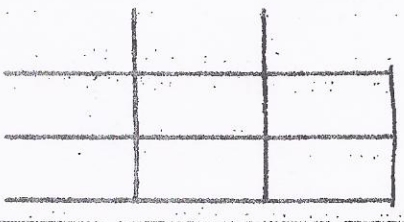
_____% O
_____% A
_____% B
_____% AB

4. Father is type O, Mother is type AB



_____% O
_____% A
_____% B
_____% AB

5. Father and Mother are both type AB



_____% O
_____% A
_____% B
_____% AB

Name_____

X Linked Genetics in the Calico Cat

Calico is a coat color found in cats, which is caused by a SEX-LINKED, CODOMINANT allele.
B = black, R = orange, and BR = calico.

The following genotypes are possible;

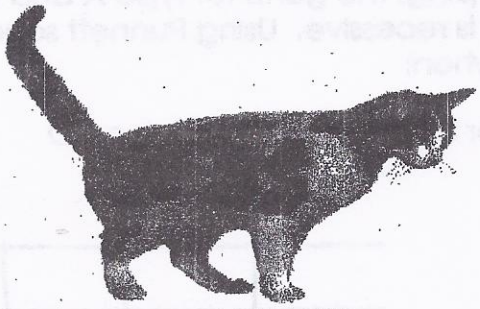


Photo: CC credit by foturasfelinas

Female cats can be black X^BX^B, orange X^RX^R, or calico X^BX^R
Male cats can be black X^BY or orange X^RY

Show each of the crosses below and include the phenotypic ratios of the offspring.

1. A black male crossed with an orange female

2. An orange male crossed with a calico female

3. A black male crossed with a black female

4. An orange male crossed with an orange female

5. A black male crossed with a calico female

*If you are a cat breeder, what type of parents should you choose to have the MOST number of calico kittens?