

Sex linked traits #2

Calico is a coat color found in cats, which is caused by a sex-linked, codominant allele. B=black, R= orange and BR=calico. Identify the phenotypes below.

$X^B X^B$

$X^R Y$

$X^R X^R$

$X^B X^R$

$X^B Y$

Is it possible to have a male calico cat?

Cross black male cat with and orange female. What are the expected phenotypes? (remember the percentages are different for sex linked traits)

	X	X				
X			Female black	%	female orange	%
Y			Female calico:	%		
			Male Black:	%		
			Male orange:	%		

Show a cross between an orange male and a calico female. What are the phenotypes of the offspring?

	X	X	Female black:	%	Female orange	%
X			Female Calico	%		
Y			Male black	%		
			Male orange	%		

Cross a black male with a black female? What are the expected phenotypes?

	X	X
X		
Y		

Female Black: % female orange %
 Female calico %
 Male black %
 Male orange %

Cross an orange male with an orange female. What are the expected phenotypes?

	X	X
X		
Y		

Female black % Female orange %
 Female calico %
 Male black %
 Male orange %

Show a cross between a black male and a calico female. What are the expected phenotypes?

	X	X
X		
Y		

Female black % female orange %
 Female calico %
 Male black %
 Male orange %

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