

① brown: BB  
 white: WW  
 roan: BW

a) BW x WW

	B	W
W	BW roan	WW white

b) BB x BW

phenotype: 50% brown  
 50% roan

genotype: 1:1  
 BB BW

phenotype: 50% roan  
 50% white

genotype: 1:1  
 BW WW

② red: RR  
 white: rr  
 pink: Rr

a) RR x Rr

phenotype: 50% red  
 50% pink

genotype: 1:1  
 RR Rr

	R	r
R	RR	Rr
r	Rr	rr

b) Rr x Rr

phenotype: 1:2:1  
 red pink white

genotype: 1:2:1  
 RR Rr rr

③ long: LL  
no tail: ll  
short: Ll

a) LL x ll  
F<sub>1</sub> gen: all short  
Ll genotype

	L
l	Ll

b) LL x Ll  
F<sub>1</sub> gen: 50% long  
50% short.

	L
L	LL
l	Ll

1 : 1 genotype  
LL ll

④ blue: BB  
red: bb  
purple: Bb

a) BB x bb  
F<sub>1</sub> gen: all purple  
Bb genotype

b) F<sub>2</sub> gen: Bb x Bb

phenotype: 1 : 2 : 1  
blue purple red

genotype: 1 : 2 : 1  
BB Bb bb

	B	b
B	BB	Bb
b	Bb	bb

⑤

red: RR

yellow: rr

both: Rr

	R	r
R	RR	Rr
r	Rr	rr

a) co-dominance

both red & yellow are expressed during

heterozygous genotype

b)  $F_1$  : Rr x Rr

phenotype: 1 : 2 : 1

genotype : 1 : 2 : 1  
red    both    yellow  
RR    Rr    rr

c) Rr x rr

phenotype : 1 : 1

genotype : 1 : 1  
both    yellow  
Rr    rr