Sex Linked Traits Answers   Hemophilia = X^h ~~x~~

no hemophilia X^H

① $X^H X^h \times X^H y$

	X^H	X^h
X^H	$X^H X^H$	$X^H X^h$
y	$X^H y$	$X^h y$

phenotypic ration
No Hemophilia : hemophilia
     3   :   1
genotypic ratio
  $X^H X^H$; $X^H X^h$; $X^H y$; $X^h y$
   1 : 1 : 1 : 1

② $X^H X^h \times X^h y$

	X^H	X^h
X^h	$X^H X^h$	$X^h X^h$
y	$X^H y$	$X^h y$

phenotypic ratio
No hemophilia : Hemophilia
     2   :   2
genotypic ratio
  $X^H X^h$: $X^h X^h$: $X^H y$: $X^h y$
   1 : 1 : 1 : 1

③ $X^h X^h \times X^H y$

	X^h	X^h
X^H	$X^H X^h$	$X^H X^h$
y	$X^h y$	$X^h y$

Phenotypic ratio
No hemophilia : hemophilia
     2   :   2
genotypic ratio
  $X^H X^h$: $X^h y$
    2 : 2

④ Look to mother - she
gives son the X chromosome

mother- $X^H X^h$
father - $X^H y$

	X^H	X^h
X^H	$X^H X^H$	$X^H X^h$
y	$X^H y$	$X^h y$

or

mother- $X^h X^h$
father- $X^H y$

	X^h	X^h
X^H	$X^H X^h$	$X^H X^h$
y	$X^h y$	$X^h y$

Incomplete Dominance

Bladder Size / Turning in homework

BB Bb bb $X^I X^I$ $X^i X^i$

① Big bladder male   Turns in late

$BB\ X^i y$

Medium bladder female   Turns in heterozygous

$Bb\ X^I X^i$

	BX^I	BX^i	bX^I	bX^i
Bx^i	BBX^IX^i	BBX^iX^i	BbX^IX^i	BbX^iX^i
By	BBX^Iy	BBX^iy	BbX^Iy	BbX^iy
Bx^i	BBX^IX^i	BBX^iX^i	BbX^IX^i	BbX^iX^i
By	BBX^Iy	BBX^iy	BbX^Iy	BbX^iy

} These rows are repeats of rows 1 & 2

phenotypic ratio

A - Big Bladder Turns in ontime female
B - Big Bladder Turns in late female
C - Big Bladder Turns in ontime male
D - Big Bladder Turns in late male

A : B : C : D   or   A : B : C : D
4 : 4 : 4 : 4   2 : 2 : 2 : 2

Genotypic ratio

BBX^IX^i : BBX^iX^i : BbX^IX^i : BbX^i
2 : 2 : 2 : 2

BBX^Iy : BBX^iy : BbX^Iy : BbX^iy
2 : 2 : 2 : 2

② $BB\ X^iX^i$ × $Bb\ X^I y$

	BX^i
BX^I	BBX^IX^i
by	BbX^iy
By	BBX^iy
bX^I	BbX^IX^i

phenotypic ratio

A - Big Bladder Turns in ontime female
~~B - Big Bladder Turns in late female~~
B - Big Bladder Turns in late male

A : B
2 : 2

genotypic ratio
BBX^IX^i : BbX^IX^i : BBX^iy : BbX^iy
1 : 1 : 1 : 1

③ $Bb\ X^iX^i$

mom $bb\ X^i$ ⟹ bbX^IX^i , bbX^iX^i

father $b\ X^i$ ⟹ BbX^IX^i , BbX^iX^i , bbX^IX^i , bbX^iX^i