|  |  |
| --- | --- |
| Red-eyed female: | 30 |
| White-eyed female: | 36 |
| Red-eyed male: | 19 |
| White-eyed male: | 15 |

HYPOTHETICAL DATA

White eyes females are unexpected…but continue on

Total flies = 100

¼ of flies = 25

we don't count the white eyed females in calculations bc they aren’t a category

sooo

X^2 = ((30-50)^2)/50 + (19-25)^2/25 + (15-25)^2/25  
  
X^2 = 13.44

There are 3 **expected** categories

2 degrees of freedom

value @ .05 = 5.99

X^2 > 5.99 **thus the null hypothesis is rejected (meaning that yes…we have non virgin flies)**

BUT IF THERE WERE NO WHITE EYED FEMALE (ie the flies were virgin)

|  |  |
| --- | --- |
| Red-eyed female: | 30 |
| White-eyed female: | 0 |
| Red-eyed male: | 19 |
| White-eyed male: | 15 |

Total flies = 64

¼ flies = 16

soo

X^2 = ((30-32)^2)/32 + (19-16)^2/16 + (15-16)^2/16  
  
X^2 = .75

X^2 < 5.99

**Thus the null hypothesis is not rejected (meaning that our flies are virgin)**