

1. For the following, list the number of explanatory variables.

Explanatory

Survival odds of polar bear cubs, in relation to ice cover. _____

Analysis of egg production in three species of fish,
controlled for body size. _____

2. Zar (1996 p463) reported the number of seeds from a genetic cross in which the expected proportion for green wrinkled seeds to other seeds was 1:15.

If 250 seeds were obtained from the cross, calculate the expected number of green wrinkled seeds versus other types

green-wrinkled $\hat{f} =$ _____ other $\hat{f} =$ _____

The observed seed numbers were green wrinkled (6) and other (244).

Calculate the observed number, as a percentage of the expected number.

green-wrinkled % = _____ other % = _____

Calculate the $\ln L$, the log likelihood ratio of each type $\ln L = f \ln \left(\frac{f}{\hat{f}} \right)$

green-wrinkled $\ln L =$ _____ other $\ln L =$ _____

Calculate the goodness of fit of observed to expected number of seeds.

$G =$ _____

Is this difference statistically significant? _____

$\chi^2_{[0.05, 1]} = 3.84$