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| Answers |
| $\pi = \text{Odds} / (\text{odds} + 1)$ |
| $\text{Odds} = \pi / (1 - \pi)$ |
| $f(y; \pi) = \exp[y \log(\frac{\pi}{1 - \pi}) + \log(1 - \pi)]$ |
| $b(\pi) = \log(\frac{\pi}{1 - \pi})$, i.e. the logit link |
| Are the number of votes for a congressional candidate associated with the amount of campaign contributions? |
| Is exposure to a particular chemical associated with a cancer diagnosis? |
| $\log\left(\frac{\pi_{ik}}{\pi_{i1}}\right) = \beta_{0k} + \beta_{1k}X_i$ |
| <code>nnet::multinom()</code> |
| <code>broom::tidy()</code> |
| $\hat{\beta}_{jk} \pm z^* SE(\hat{\beta}_{jk})$, where z^* comes from $N(0,1)$. |
| $\pi = \frac{\exp(\beta_0 + \beta_1 X)}{1 + \exp(\beta_0 + \beta_1 X)}$ |
| $\log\left(\frac{\pi}{1 - \pi}\right) = \beta_0 + \beta_1 X$ |
| Standard Normal distribution (Z-distribution) |

Logistic Regression Bingo

Names: _____

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| Which distribution is used to perform inference on coefficients from a logistic model? | Canonical link function for binary logistic regression | What is the formula for the logistic model? |
| What is the multinomial logistic regression model, comparing category ($y=k$) to the baseline category ($y=1$)? | The formula for probability, in terms of the odds | Which function from the nnet R package can be used to fit a multinomial logistic regression model? |
| What is the formula for the logistic model? | A research question with a binomial response. | Formula for a $C\%$ confidence interval for β_{jk} from a multinomial logistic regression model. |