

$$\ell = \log_b \left( \frac{p}{1-p} \right) = \beta_0 + \beta_1 x_1 + \cdots + \beta_n x_n$$

$$\Rightarrow b^{\log_b \left( \frac{p}{1-p} \right)} = b^{\beta_0 + \beta_1 x_1 + \cdots + \beta_n x_n}$$

$$\Rightarrow \frac{p}{1-p} = b^{\beta_0} \cdot b^{\beta_1 x_1} \cdot \cdots \cdot b^{\beta_n x_n}$$