4.6 Review Questions

4.6.R1

1/1 point (graded)

Which of the following is NOT a linear function in x:

- ◯ $f(x) = a + b^2 x$
- ◯ The discriminant function from LDA
- ◯ $\delta_k(x) = x\frac{\mu_k}{\sigma^2} - \frac{\mu_k^2}{2\sigma^2} + \log(\pi_k)$
- ◯ $\text{logit}(P(y=1|x))$ where $P(y=1|x)$ is as in logistic regression
- ◉ $P(y=1|x)$ from logistic regression ✔

Explanation

$P(y=1|x)$ from logistic regression is not linear because it involves both an exponential function of x and a ratio. Notice that $f(x) = a + b^2 x$ is not a linear function of b, but is a linear function of x.

Submit

ℹ Answers are displayed within the problem