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4.6.R1

1/1 point (graded)

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

☐ $f(x) = a + b^2x$

☐ 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 $f(x) = a + b^2x$ is not a linear function of b , but is a linear function of x .

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📘 Answers are displayed within the problem

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