1.   **1 / 1 point**

$$\overbrace{J(\vec{w}, b)}^{?} = \frac{1}{m} \sum_{i=1}^{m} \underbrace{L\left(f_{\vec{w},b}\left(\vec{x}^{(i)}\right), y^{(i)}\right)}_{?}$$

In this lecture series, "cost" and "loss" have distinct meanings. Which one applies to a single training example?

☑ Loss

> ✓ **Correct**
> In these lectures, loss is calculated on a single training example. It is worth noting that this definition is not universal. Other lecture series may have a different definition.

☐ Cost

☐ Both Loss and Cost

☐ Neither Loss nor Cost

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2.   **1 / 1 point**

Simplified loss function

$$L\left(f_{\vec{w},b}\left(\vec{x}^{(i)}\right), y^{(i)}\right) = \begin{cases} -\log\left(f_{\vec{w},b}\left(\vec{x}^{(i)}\right)\right) & \text{if } y^{(i)} = 1 \\ -\log\left(1 - f_{\vec{w},b}\left(\vec{x}^{(i)}\right)\right) & \text{if } y^{(i)} = 0 \end{cases}$$

$$\boxed{L\left(f_{\vec{w},b}\left(\vec{x}^{(i)}\right), y^{(i)}\right) = -y^{(i)}\log\left(f_{\vec{w},b}\left(\vec{x}^{(i)}\right)\right) - (1 - y^{(i)})\log\left(1 - f_{\vec{w},b}\left(\vec{x}^{(i)}\right)\right)}$$

For the simplified loss function, if the label $y^{(i)} = 0$, then what does this expression simplify to?

○ $-\log(1 - f_{\vec{w},b}(\mathbf{x}^{(i)})) - log(1 - f_{\vec{w},b}(\mathbf{x}^{(i)}))$

○ $\log(1 - f_{\vec{w},b}(\mathbf{x}^{(i)})) + log(1 - f_{\vec{w},b}(\mathbf{x}^{(i)}))$

◉ $-\log(1 - f_{\vec{w},b}(\mathbf{x}^{(i)}))$

○ $\log(f_{\vec{w},b}(\mathbf{x}^{(i)}))$

> ✓ **Correct**
> When $y^{(i)} = 0$, the first term reduces to zero.