The resistors chosen for the voltage divider were a $10k$ and a $22k$.

The relevant equation for finding the output voltage at the center point common to the two resistors is:

$$V_o = V_s(\frac{R_2}{R_1 + R_2})$$

Where V_s is the supply voltage ($5V$), and R_1 and R_2 are the resistors used in the divider. With the mentioned resistors, this gives an output voltage of:

$$V_o = 5V\left(\frac{22k}{10k + 22k}\right) = 3.4V$$

This isn't exactly the $3.3V$ desired, but without constructing a more complicated combination of series and parallel resistors, it's the closest possible value.

Although any two resistors with the same ratio to one another would result in the same output voltage, large resistors were chosen to limit the potential current that could enter the input pin on the Pi. Based on a little research, it was found that the input pins aren't rated for hardly any current at all, on the order of $1mA$. Given these two resistors, the current that enters the input pin should be no larger than:

$$I = \frac{V_s}{R_{total}} = \frac{5V}{32k} = 0.16mA$$

Assuming the internal resistance of the input pin is negligible. In reality, the current would always be smaller than this value.