Example: From the Heart SCORE Study, compare the prevalence of diabetes by level of weekly exercise.

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<th>Total</th>
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<td>&lt; 3 times/wk</td>
<td>177</td>
<td>18</td>
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<tr>
<td>&gt; 3 times/wk</td>
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\[ p_1 = \text{__________} \]

\[ p_2 = \text{__________} \]

\[(\text{RD}) (p_1 - p_2 = \text{______}); \quad \text{Risk Ratio (RR)} (p_1 / p_2 = \text{______})\]

1) Set up the hypothesis and determine the level of statistical significance (including 1 versus 2-sided hypothesis).

\[ H_0: \quad \text{______________________________} \]

\[ H_1: \quad \text{______________________________} \]

\[ \alpha = 0.05 \]
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2) Select the appropriate test statistic:

\[
\min[n_1p_1, n_1(1 - p_1)] \geq 5 \\
\min[n_2p_2, n_2(1 - p_2)] \geq 5
\]

\[
z = \frac{\hat{p}_1 - \hat{p}_2}{\sqrt{\hat{p}(1-\hat{p})(1/n_1 + 1/n_2)}}
\]

Use “z” instead of “t”

3) Set up the decision rule:

Reject $H_0$ if: _____________________________
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4) Compute the test statistic:

\[
\hat{p} = \frac{x_1 + x_2}{n_1 + n_2} \quad \hat{p} = \text{_________} = \text{_________}
\]

\[
z = \frac{\hat{p}_1 - \hat{p}_2}{\sqrt{\hat{p}(1-\hat{p})(1/n_1 + 1/n_2)}} \quad z = \text{_________________________}
\]

5) Conclusion: ________________________________