Test Stat: \( F = \frac{n \bar{x}^2}{s^2} \) \( (= 7.2864) \)

**Critical Value** (from the F distribution)

Right Tail Test Always
(because when \( H_0 \) is false
the \( \bar{x} \) values are very different
so \( S_x^2 \) will be large \( \frac{1}{n} \)
\( F = \frac{n S_x^2}{s^2} \) will be large also)

**Table A5**

\[ \begin{align*}
\text{df}_1 & = \text{numerator degrees of freedom} \\
\text{df}_2 & = \text{denominator degrees of freedom} \\
K(n-1) & \rightarrow \text{Right Tail C.V.} \\
\end{align*} \]

For our ex., let’s use \( \alpha = .05 \) \( K = 5 \)
\( \alpha = .05 \)
\[ \begin{align*}
\text{df}_1 & \rightarrow K - 1 = 4 \\
\text{df}_2 & \\
K(n-1) & = 5(7-1) \\
& = 30 \\
& \rightarrow 2.6896 \\
\end{align*} \]

\( P \)-val requires a computer (optional)

**Conclusion:** reject \( H_0 \) if T.S. > C.V.

For this example, we rejected \( H_0 \); \( \frac{1}{r} \) will support \( H_1 \).

The data support the claim that the mean temp’s are different. (The treatments are more effective than placebo).