

**Argument #1** Null: the population mean percentage of women is the same for all the **other** judges.

## Your turn: Find the F-statistic

		Sum of squared residuals	d.f.	MSS	F	P-value
<b>Full model</b>	<b>Extra</b>	C: subtract A from B 326.44	F: subtract D from E 5	G: divide C by F 65.29	I: divide G by H 1.365	use R: 1 - pf(I, F, D) 1 - pf(1.365, 5, 39) 0.26
	<b>separate means model</b>	A 1864.46	D 39	H: divide A by D 47.81		
<b>Reduced model</b>	<b>two means model</b>	B 2190.90	E 44			

**Argument #2** the population mean percentage of women for Spock is the same as the mean for all the other judges

		Sum of squared residuals	d.f.	MSS	F	P-value
<b>Full model</b>	what's left? Extra	C: subtract A from B Extra SS $3791.53 - 2190.90 = 1600.63$	F: subtract D from E Extra d.f.: <u>1</u>	G: divide C by F $1600.63 / 1 = 1600.63$	I: divide G by H $\frac{1600.63}{49.78} = 32.151$	$< 0.0001$ ↑ $1 - pf(32.151, 1, 44)$
	two means model	<u>2190.90</u>	<u>44</u>	H: divide A by D $2190.90 / 44 = 49.78$		
<b>Reduced model</b>	equal means model	<u>3791.53</u>	45	<del><math>G_{full}^2</math></del> ↓ $G_{full}^2$		