- If MS_M is large and MS_R is small, then F will be large.

- We can determine whether our F value is significant by looking up the critical values on the F table.

- For SS_M the degrees of freedom = number of variables in model (in our case 2).

- For SS_R the degrees of freedom = number of observations – number of parameters being estimated, including the constant (in our case 5-2 = 3)

df numerator = 2, df denominator = 3 for our example.

df for numerator

df for denominator

df2/df1	1	2	3	4	5	
1	161.4476	199.5000	215.7073	224.5832	230.1619	
2	18.5128	19.0000	19.1643	19.2468	19.2964	
3	10.1280	9.5521	9.2766	9.1172	9.0135	
4	7.7086	6.9443	6.5914	6.3882	6.2561	
5	6.6079	5.7861	5.4095	5.1922	5.0503	

So we would need an F value of greater than 9.5521 for our result to be significant at $p < 0.05$