

## 13.E: Exercises

### Exercises – Ch 15

1. True or false. The bigger the differences between the sample means, the more likely it is that at least one of the Fs will be significant.
2. True or false. The advantage of combining two factors into a single research study is that the two factor study provides information about the interaction of the two factors and the main effects of each factor.
3. Complete the ANOVA table given this is a  $2 \times 3$  ANOVA (two-way ANOVA; factor A = 2 levels with  $n = 5$ ; factor B = 3 levels with  $n = 5$ ;  $N = 30$ )

| Source            | SS  | df | MS | F |
|-------------------|-----|----|----|---|
| Between Treatment | 60  |    |    |   |
| Factor A          |     |    |    | 5 |
| Factor B          |     |    |    |   |
| Interaction       | 30  |    |    |   |
| Within Treatment  |     |    | 2  |   |
| Total             | 108 |    |    |   |

4. What is the df for factor A, B and AxB for the following? What are the corresponding F-critical values?
  1. factor A  $n=14$ ; factor B  $n = 18$ ;  $N = 32$

### Answers to Exercises – Ch 15

1. true

3.

| Source            | SS  | df | MS | F   |
|-------------------|-----|----|----|-----|
| Between Treatment | 60  | 5  |    |     |
| Factor A          | 10  | 1  | 10 | 5   |
| Factor B          | 20  | 2  | 10 | 5   |
| Interaction       | 30  | 2  | 15 | 7.5 |
| Within Treatment  | 48  | 24 | 2  |     |
| Total             | 108 | 29 |    |     |

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