2^k Factorial Design Discussion

Respond to the following questions individually then discuss your answers in your group. You should hand in your individual response. We will discuss your group responses and then I will lecture on advanced topics.

1. For the following unreplicated 2^2 table:

Run	Response
(1)	10
b	17
a	23
ab	31

   (a) Is the table in standard order?

   (b) Compute the A main effect, B main effect and AB interaction effect. What would the A, B and AB contrasts be?

   (c) If the data is analyzed as a general linear model, the absolute value of the coefficients are exactly one-half the absolute value of the effects. Why is this so?

   (d) What is SS(A)? Can an F-test be performed? Why or why not?

2. Listed below are some of the signs for a 2^3 factorial experiment. Can the entire signs table be reconstructed from the set of signs provided?

AB	BC	ABC
-	-	-
+	-	-
-	+	-
+	+	-
-	-	+
+	-	+
-	+	+
+	+	+

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