DOE Homework

Consider the following Experiment Outcomes

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| Run | Treatment | n=1 | n=2 | n=3 |
| 1 | (1) | 37.46 | 36.44 | 35.74 |
| 2 | a | 35.27 | 31.32 | 34.35 |
| 3 | b | 12.86 | 17.73 | 14.67 |
| 4 | ab | 25.54 | 27.18 | 23.23 |
| 5 | c | 40.93 | 38.89 | 41.03 |
| 6 | ac | 22.74 | 28.06 | 20.74 |
| 7 | bc | 44.83 | 48.60 | 48.77 |
| 8 | abc | 23.94 | 24.31 | 24.52 |
| 9 | d | 38.22 | 37.71 | 39.55 |
| 10 | ad | 33.62 | 34.83 | 35.23 |
| 11 | bd | 9.73 | 10.68 | 14.02 |
| 12 | abd | 21.28 | 21.95 | 24.41 |
| 13 | cd | 42.01 | 38.06 | 40.73 |
| 14 | acd | 19.74 | 25.13 | 23.51 |
| 15 | bcd | 49.46 | 47.07 | 47.90 |
| 16 | abcd | 25.88 | 26.21 | 26.64 |

1. Describe the experiment in words
2. Describe the model for the experiment
3. Construct a contrast table for the experiment in excel
4. Using the contrast table estimate all of the effects
5. Draw all possible tier chars and interaction graphs and explain the results the experiment seems to display