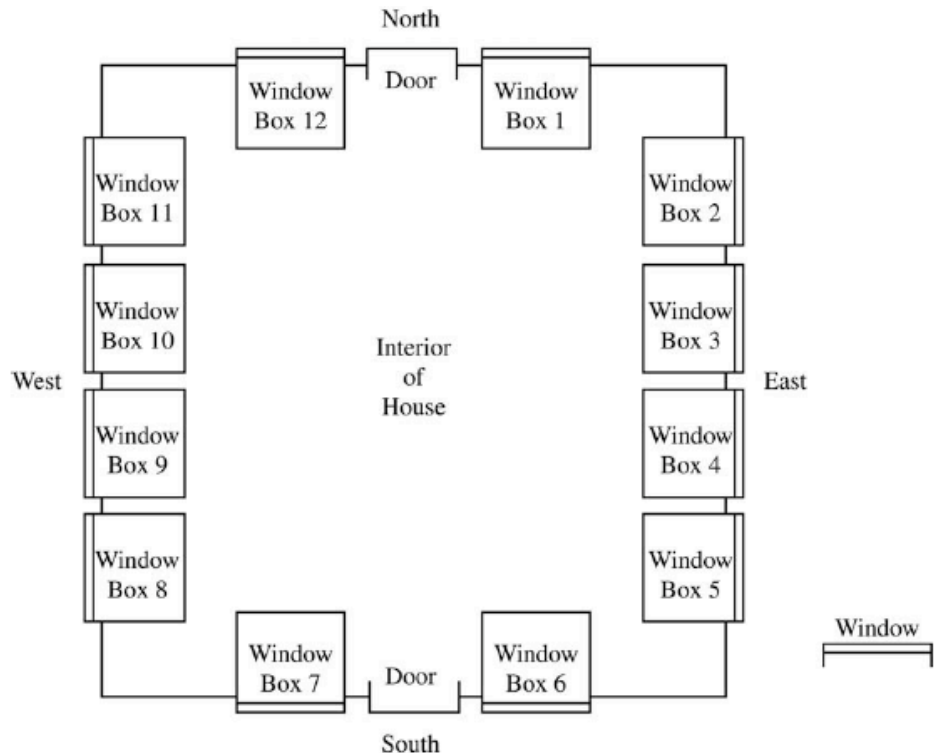




## “FRAPPY” {Free Response AP Problem...Yay!}

The following problem is taken from an actual Advanced Placement Statistics Examination. Your task is to generate a complete, concise statistical response in 15 minutes. You will be graded based on the AP rubric and will earn a score of 0-4. After grading, keep this problem in your binder for your AP Exam preparation.

The United States Department of Energy is conducting an experiment to compare the heat gain in houses using two different types of windows, A and B. Six windows of each type are available for the experiment. The Department has constructed a house with twelve windows as shown on the floor plan below.



### Scoring:

In the interior of the house, each window is surrounded by a window box to capture and measure the amount of heat coming in through that window and to isolate the heat gain for each window.

(a) A randomized block experiment will be used to compare the heat gain for the two types (A and B) of windows. How would you group the window boxes into blocks? (Clearly indicate your blocks using the window box numbers.) Justify your choice of blocks.

**E P I**

(b) For the design in part (a), describe how you would assign window types (A and B) to the numbered window boxes.

**E P I**

**Total: \_\_/4**