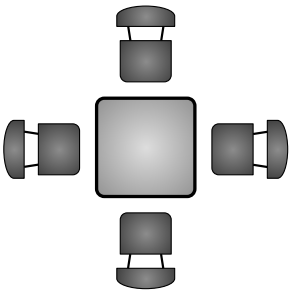
Problem of the Week

Problem A

Dining Dilemma

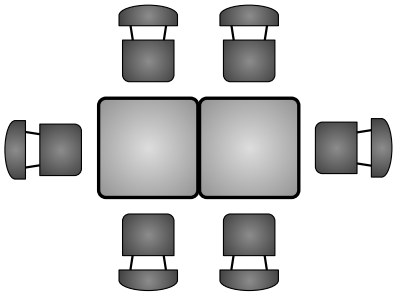
We want to start a new restaurant. We have square tables that allow one chair on each side. Therefore, we can arrange four chairs around each table.



A) If the restaurant has 32 tables, how many chairs do we need to buy?

B) As we set up the restaurant, we put out one table at a time with its full set of chairs surrounding it. If we have put out 36 chairs, how many tables have been set up so far?

C) When we have banquets we sometimes need to push the tables together. This changes the amount of chairs we can put around the table grouping, as shown in the following picture.



How many chairs are required if we set up the 32 tables in pairs?

D) How would the answer to part (C) change if we group 8 tables end to end, and still use all 32 tables?