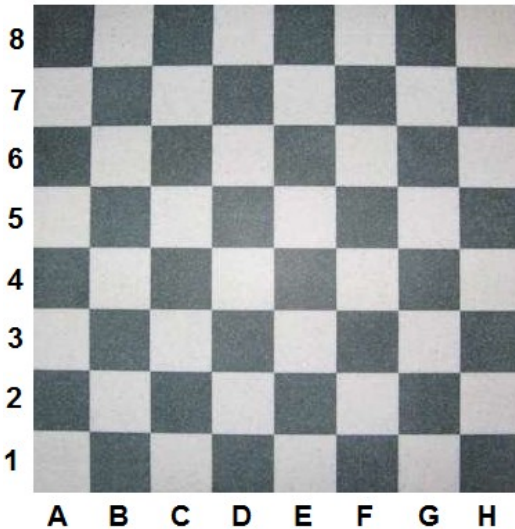
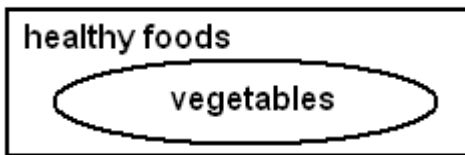


- 1.) Could we cover the board below with the cutouts of note cards in the way we did in class if we are required to leave slots C2 and G6 open? [10 Points]
(Explain *conclusively*.)

Recall: 2 x 1 note cards must be set either horizontally or vertically on the chess board without overlapping.



- 2.) Given the Euler Diagram, form a correct conditional statement. [5 Points]
Please write it in "If _____, then _____" form.



- 3.) State the missing part in the logical syllogism [5 Points]
then draw a Euler Diagram that represents the syllogism.
- (A) All math students have calculators.
 - (B) ???
 - (C) Amy has a calculator.

In Problems 4 - 6, do the following:

[8 Points Each]

(A) Identify both the hypothesis and conclusion.

(B) Write the converse of the statement.

**(C) State whether the converse is true or false (indicate your answer on the blank).
If false, provide a "counterexample".**

4.) Proofs are fun.

Hypothesis:

Conclusion:

Converse:

True / False:

5.) You must pay a fine when you get a speeding ticket.

Hypothesis:

Conclusion:

Converse:

True / False:

6.) Handicapped drivers park in reserved parking spaces.

Hypothesis:

Conclusion:

Converse:

True / False:

- 7.) Number the conditional statements to form a logical chain, if possible, and state the overall conditional. If a logical chain cannot be formed, explain why. **[6 Points]**

_____ If you visit Mr. Hamilton's web site to see what you missed, you will get caught up faster.

_____ If you are sick, you will miss math class.

_____ If you are brave, you will go outside without a coat.

_____ If you miss math class, you visit Mr. Hamilton's web page to see what you missed.

_____ If you go outside without a coat, you get sick.

Overall (?) :

- 8.) Create a two-column algebra proof of the following: **[10 Points]**

Given: $4(x - 3) + 9 = 7x + 12$

Prove: $x = -5$

