

PROBLEMS FROM "AHA! INSIGHT" by Martin Gardner (some have been modified)

1. The five members of the Millard Fillmore Junior High School ping pong club decided to hold an elimination tournament. The coach explained his tournament chart this way:

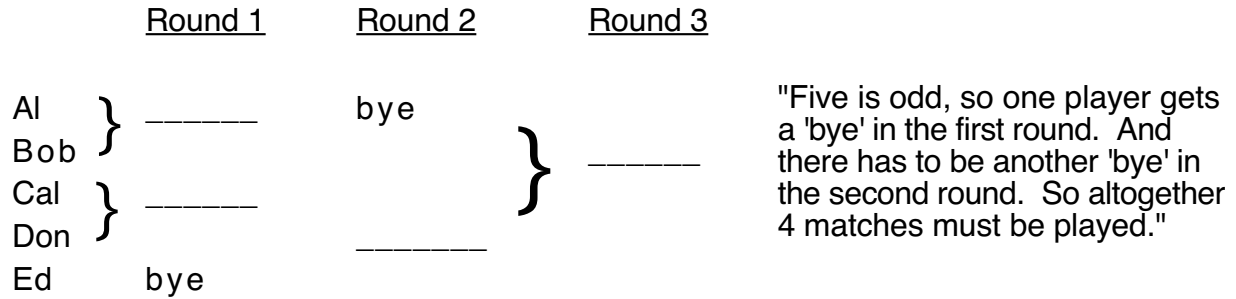


Table tennis was so popular next year that the club had 37 members. Again the coach designed a tournament with the smallest possible number of 'byes'. Can you figure out the number of games that were played?

2. In a certain hospital the identification tags of 4 babies got mixed up. Two babies were tagged correctly and the other two wrong. In how many different ways can this happen?

Now suppose that after the tags are mixed up, exactly three are correct and only one wrong. In how many ways can this happen?

3. Before leaving the park, Bob and Helen walked through the zoo. In one enclosure they saw a mixture of giraffes and ostriches. After they had left the zoo, Bob asked Helen, "Did you count the giraffes and ostriches?" Helen replied, "No, how many were there?" Bob said, "You figure it out. Altogether they had 30 eyes and 44 feet."
4. Take 3 empty styrofoam coffee cups and try to put 11 pennies in them so that each cup holds an odd number of pennies.

Now try to put 10 coins in the same cups so that there is an odd number of coins in each cup.