

# Logic. Other Homework problems

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Finish the problems from the class handout.

## Competition practice

**Exercise 1. 1999 AMC 8, Problem 6.** Boe, Coe, Flo, Jo, and Moe have different amounts of money. Neither Jo nor Bo has as much money as Flo. Both Bo and Coe have more than Moe. Joe has more than Moe, but less than Bo. Who has the least amount of money?

**Exercise 2. Mathcounts 1987, Team round.** Each of the marbles  $A$ ,  $B$  and  $C$  is colored one of three colors. One marble is white, one marble is red, and one marble is blue. Exactly one of the following statements is true.

- $A$  is red.
- $B$  is not blue.
- $C$  is not red.

What color is marble  $B$ ?

**Exercise 3.** As I was going to Saint Ives,  
I crossed the path of seven wives,  
Every wife had seven sacks,  
Every sack had seven cats,  
Every cat had seven kittens,  
Kittens, cats, sacks, wives,  
How many were going to Saint Ives?

## Challenge Problems

**Exercise 4.** Hannah, Matthew, Joshua, Alexis, and Cody went trick or treating together. They each wore a different costume (Dracula, a ballerina, a cowboy, Little Miss Liberty, and Frankenstein). At the end of the day, each of them counted the number of pieces of candy they collected. They each collected a different amount of candy (78, 55, 67, 46, and 73).

Figure out the costume worn by each person and the amount of candy each person collected.

1. Matthew and Joshua collected a total of 145 pieces of candy.
2. The boys (Cody, Joshua, and Matthew) costumes included a cowboy, Dracula, and Frankenstein.
3. Frankenstein collected the fewest pieces of candy.
4. The cowboy collected 67 pieces of candy.
5. Joshua was not Dracula.
6. Hannah was not Little Miss Liberty.
7. Little miss liberty collected 55 pieces of candy.
8. Matthew and Cody collected a total of 124 pieces of candy.
9. The ballerina collected 73 pieces of candy.
10. Cody was not a cowboy.