Quiz 1

Show all your work

Problem 1: Mei has a 8 ft stick to saw into three pieces to stake her garden plants. Suppose the longest stick is as long as the combined length of the two shorter sticks, and the middle one is three times the shortest one, find the length of each stick.

Score: /3

Problem 2: Anjali's family was invited to a friend's party. Suppose there were 3 families in total: 6 parents and 7 ($= 2+2+3$) children. If all the adults shook hands with one another except with their spouses and all the children shook hands except with their siblings, how many handshakes took place?

Score: /4

Problem 3: Jimmy and Katharina just became friends with Beatrice, and they want to know when her birthday is. Beatrice gives them a list of ten possible dates:

    February 9 14
    April 3 15
    June 15 24 27
    September 3 14 24

Beatrice then tells Jimmy and Katharina separately the month and the day of her birthday, respectively.

Jimmy: I don't know when Beatrice's birthday is, but I know that Katharina doesn't know either.

Katharina: At first I didn't know when Beatrice's birthday is, but I know now.

Jimmy: I STILL DON'T know when Beatrice's birthday is.

Find the month Beatrice was born and explain why Jimmy still didn't know. Do you know when Beatrice's birthday is?

Score: /3