

## QUIZZ 0

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**Name (1 point, if you write it so I can read it):**

**Previous Math courses taken:**

Problems 1-4 are easy questions; the 5-th problem is a challenge - think of it later.

**1.** There are 20 students in our class. Suppose, 15 of them like music, 10 like geometry and 4 hate both. How many students like music and geometry?

**2.** The game "Double chess" have the same rules as usual chess but each player makes two moves. Show that blacks have no winning strategy.

**3.** Let  $A(n)$  be the number of parts into which  $n$  lines (in general position) divide a plane. E.g.,  $A(0)=1$ ,  $A(1)=2$ ,  $A(2)=4$ , ... . Find  $A(10)$ .

**4.** 200 people are ranged in 20 rows and 10 columns. From each row the tallest person is selected and from these 20 the shortest is A. From each column the shortest person is selected and from these 10 the tallest is B. Who is taller, A or B?

**5\*.** A snail crawls along a twig with the speed 1 inch per day. The twig grows (uniformly) so that its length increases by 2 inches per day. Will the snail ever reach the end of the twig? If yes, - when?