10 (a) Suzma is training for a marathon. In the first week she runs 10 km. Then each week she runs a distance that is 10% greater than the week before.

The total distance that Suzma has run by the end of n whole weeks is more than 200 km. Find the smallest possible value of n. [4]

(b) A geometric progression has 1st term a and common ratio r, where $a \neq 0$ and $r \neq 1$. The 1st, 2nd and 3rd terms of the geometric progression are the 1st, 3rd and 7th terms of an arithmetic progression. Find the value of r. [4]

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11 **(a)** There are 3 girls and 2 boys standing in a straight line. Find the number of possible orders in each of the following cases.

(i) No girls are next to each other. [2]

(ii) The 2 boys are not next to each other. [2]

(b) 12 people, including Anjie and Bubay, are divided into 3 groups of 4 people. Anjie and Bubay must not be in the same group.

Find the number of ways in which the 3 groups can be selected. [2]