1. Background

The goal of the research work is to compute a vulnerability map of an area based on population information for rescue purposes. This research work uses building register data and there are 31,989 buildings in total. The evaluation criteria which were used to compute the vulnerability of the area considered in this work were the total number of people and the total number of children (aged 6 years old or less) inside a building. The population size attribute can be used as a criterion to evaluate how densely a building is inhabited. In this data set, the population size attribute values vary from 1 to 338 people. The attribute value for the number of children varies from 0 to 63 children. Most children under 6 years old are not able to protect and prepare themselves in the event of a disaster and they also have a limited ability to respond to and recover from a disaster. The more people and children that live inside a building, the more vulnerable the building is. In this research work, we consider only large-scale disasters such as earthquake, flooding or breakdown of an electricity power plant, not fire alarms which happen in one or two buildings.

2. Goal of the questionnaire

In my research work, a mathematical model was used to estimate the vulnerability of the buildings on the based of population information in the event of a disaster. The goal of the questionnaire is to get knowledge from the experts who are specialised in the rescue services in Finland. We compare the mathematical model' results with experts´ knowledge to see how well the model's result fits to the experts´ answers.

This questionnaire is confidential and it will be used only for this research purpose. Several persons will participate in answering the questionnaire. The final results of the questionnaire will be calculated by using the average values of all the interviewees´ answers. Therefore, the answer given by a single person cannot be identified from the results.

3. Questions

3.2 Imagine that you are planning the rescue resources after a disaster has happened. You have limited amount of resources and they are only enough for rescuing one building at a time. Two buildings with different amount of people are compared. If you ignore all the other factors such as location of the building and consider only the population size information, which building of each pair below is more vulnerable? Please tick the check box below the building that you consider more vulnerable.

1)

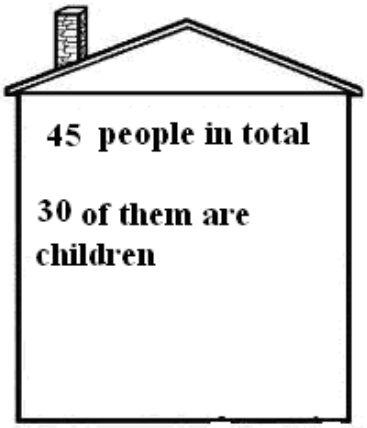
244 people in total
8 of them are children

☐ A

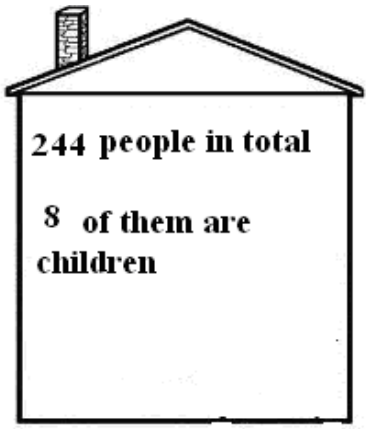
100 people in total
30 of them are children

☐ B

2)

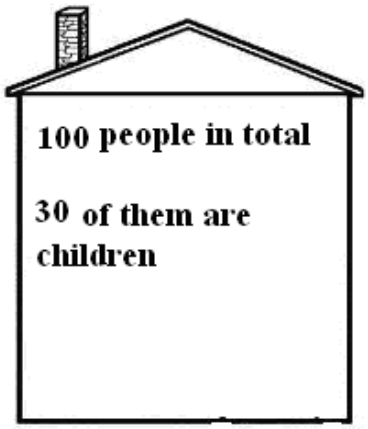

45 people in total
30 of them are children

☐ A

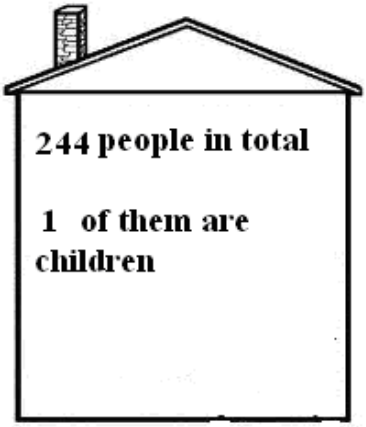

244 people in total
8 of them are children

☐ B

3)


100 people in total
30 of them are children

☐ A

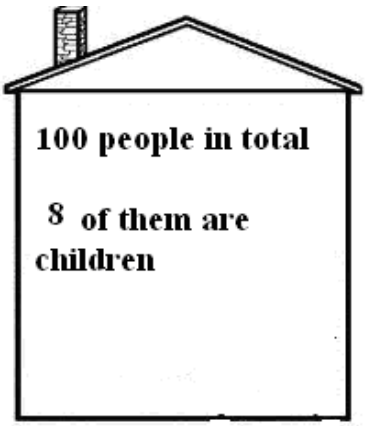

244 people in total
1 of them are children

☐ B

4)

244 people in total
1 of them are children

☐ A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8 of them are children

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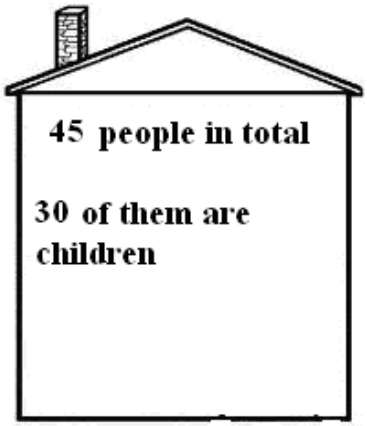
5)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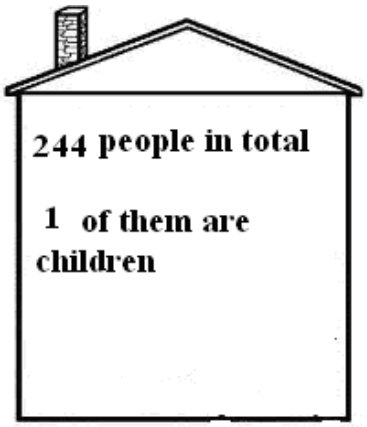
30 of them are children

☐ A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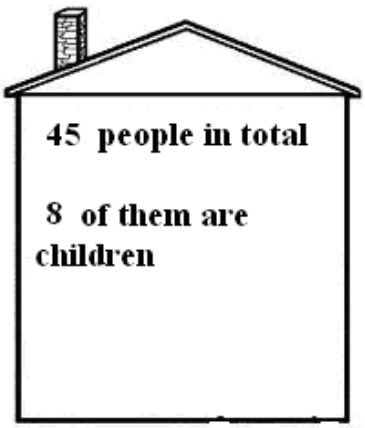
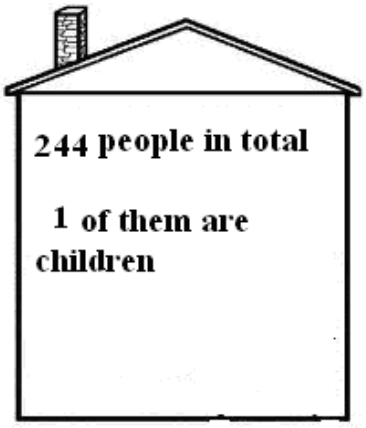
1 of them are children

☐ B

6)


45 people in total
8 of them are children

☐ A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1 of them are children

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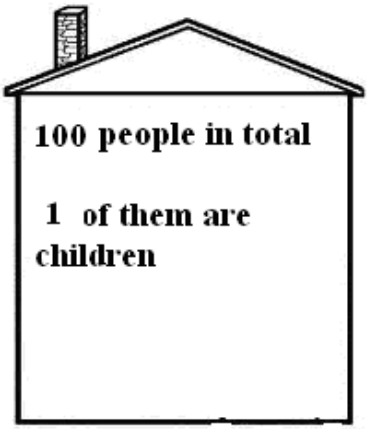
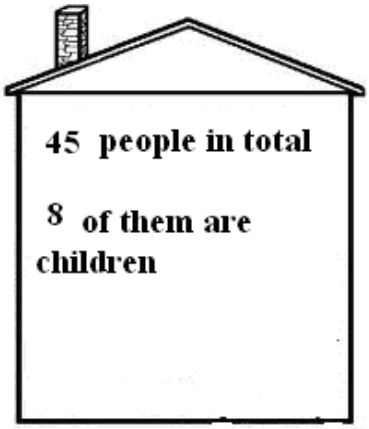
7)


100 people in total
1 of them are children

☐ A


45 people in total
8 of them are children

☐ B

8)

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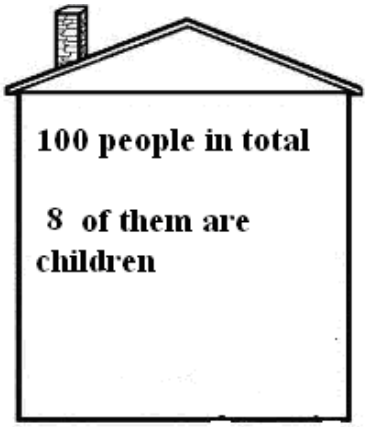
30 of them are children

☐ A

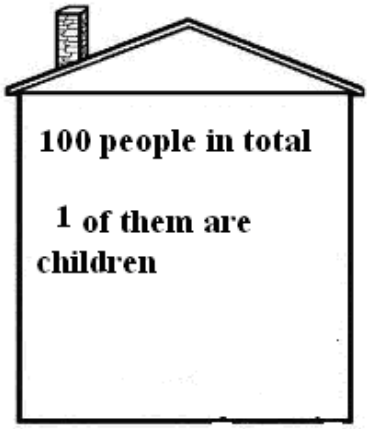

100 people in total
8 of them are children

☐ B

9)

45 people in total
30 of them are children

☐ A


100 people in total
1 of them are children

☐ B