Conditions

sketch a graph with appropriately labeled and scaled axes that represents the total amount of food a human consumes over an average lifetime.

Solution

The last scientific developments claims, that the average human consumes approximately 50 000 kg of food over 70 years, or 900 kg of food per year.

The average mature human mass is 65-70 kg. So, we can conclude that we need approximately 13 kg of food on 1 kg of mass per year.

Assume, that the human average mass is distributed in the next way:

0 years – 3 kg

1 year – 10 kg

2 years – 13 kg

5 years – 20 kg

10 years – 30 kg

15 years – 50 kg

20 years – 60 kg

25-45 years – 70 kg

45-55 – 60 kg

55-70 – 55 kg

Now multiply each value on 13 kg and we have an amount of food, which is consumed per year, depending of current human age.

The total amount of food for each next year = the total amount of food for all previous years + the food consumed in the next year(Look at the attached .xls file to understand the formula).

The graph is below.

Food consuming over the average lifetime

Y-axis: Total food consumed, kg (0, 10000, 20000, 30000, 40000, 50000, 60000)

X-axis: average lifetime (years)

Legend: Ряд1, Ряд2