Predicting the spread of viruses (EASY)

The spread of Covid-19 virus is very fast. It is predicted that an infected person can spread the virus on average to 2.5 other persons within only 5 days. This means that in 30 days from one infected person, the virus will spread to 244 people. However if we follow the guidelines of social/physical distancing, work from home, always wash our hands, it is predicted that the spread will reduce to only 1.5 persons. This means that in 30 days it will infect only 11 people.

This certainly will affect how the pandemic will strain the health system.

Input

There will be 5 data in one line separated by a space. A non negative integer representing how many initial infected people, two non negative real numbers representing the rates of the virus spread, before and after the people follow the social distancing guidelines, a positive integer representing in how many days a infected person can spread the virus, and another positive integer representing when (from the initial known infection) the campaign of social distancing starts.

Output

Output will be only one line containing three integers, the number of predicted infected persons after 30, 60, and 90 days.

Example

Input:

1 2.5 1.5 5 45

Output:

244 7724 87989