Problem 9 | **72 Points**

Lather, Rinse, Repeat

Program Name: shampoo.java **Input File: shampoo.in**

You are a veterinarian technician for the local clinic. Actually, in your case, your job title is a fancy way of saying you shampoo dogs. But you take your dog-shampooing duties seriously, and decide to write a program to determine the minimum cost necessary to shampoo a given set of dogs. You know the following about the cost of shampoo:

8 oz. bottle of shampoo = $5
16 oz. bottle of shampoo = $9
24 oz. bottle of shampoo = $12

And you know the following about dogs:

Small dogs require .5 oz. of shampoo.
Medium dogs require 1 oz. of shampoo.
Large dogs require 2 oz. of shampoo.
Extra-large dogs require 4 oz. of shampoo.

Input

The first line of input will contain a single integer *n* indicating the number of data sets. Each data set will consist of a single line containing the number of small, medium, large, and extra-large dogs, respectively, each separated by a single space.

Output

The output for each data set will be the minimum cost of the shampoo necessary to shampoo the given set of dogs, in the format $*x*, where *x* is the cost in dollars. Note that bottles must be purchased in full amounts.

Example Input File

```
3
1 1 1 1
0 2 3 6
16 10 6 3
```

Example Output To Screen

```
$5
$17
$24
```