

Problem 2: Profit Margin

10 minutes, 100 points

Filename: prob02 (e.g. *prob02.c*, *prob02.cpp*, *prob02.java*, *prob02.py2*, *prob02.py3*)

Description

We are helping someone sell their shirts at the local market. Given daily costs, shirt costs, shirt sales price, and number of shirts sold, they need our help calculating their profit margin for each day.

Begin by calculating per shirt profit:

$\$4.75 \text{ price} - \$1.86 \text{ cost} = \$2.89 \text{ profit}$

Then calculate shirt profit for the day:

$13 \text{ shirts at } \$2.89 \text{ profit per shirt} = \$37.57 \text{ shirt profit}$

Finally, subtract the daily booth cost from the shirt profit to determine profit margin for the day:

$\$37.57 \text{ shirt profit} - \$20.00 \text{ daily cost} = \$17.57 \text{ profit margin for the day}$

The first line of input will contain a single integer that indicates how many additional lines of input need to be read. Each additional line of input will contain the daily booth cost, the per shirt cost, the per shirt sale price, and the quantity of shirts sold at the market that day.

Output the profit margin for the day. Round to two decimal places. Always display two decimal places (e.g. $25.1 = 25.10$).

Sample Input

```
3
20 1.86 4.75 13
20 1.86 4.75 42
20 1.86 4.75 52
```

Sample Output

```
17.57
101.38
130.28
```

Hints

You can safely assume the shirts will always be sold for more than they cost.

Make sure your program can return a negative profit margin if the daily shirt profits are less than the daily booth costs (e.g. negative profit of 1.23 would appear as -1.23)