

4249 Heptathlon

Ms. Lee is a heptathlon athlete participating in the Olympic Games for Korea. A heptathlon is a track and field athletics competition made up of 7 events (100m hurdles, high jump, shot put, 200m, long jump, javelin throw, and 800m). Given Lee's performances in the 7 events, we want to compute Lee's score.

The total score in a heptathlon is computed by summing the scores in all 7 events. The formula for the score of each event follows the following format:

- Score = $\lfloor A \times (B - P)^C \rfloor$ for Running Events
- Score = $\lfloor A \times (P - B)^C \rfloor$ for Field Events

where A , B , and C are constants given below and P is a player's performance in the units described below.

Note that the score for each event is an integer.

Event	A	B	C	P	Type
100 m Hurdles	9.23076	26.7	1.835	sec	Running
High Jump	1.84523	75	1.348	cm	Field
Shot Put	56.0211	1.5	1.05	m	Field
200 m	4.99087	42.5	1.81	sec	Running
Long Jump	0.188807	210	1.41	cm	Field
Javelin Throw	15.9803	3.8	1.04	m	Field
800 m	0.11193	254	1.88	sec	Running

We assume that $B \leq P$ for field events and $P \leq B$ for running events.

Input

The input consists of T test cases. The number of test cases T ($1 \leq T \leq 1000$) is given in the first line of the input. Each test case consists of one line with 7 integers. These integers represent Lee's performances in the units described in column P of the table above. The order of events is 100m hurdles, high jump, shot put, 200m, long jump, javelin throw, and 800m.

Output

For each test case, print Lee's total score, on a line by itself.

Sample Input

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3
19 90 11 29 264 20 131
12 95 21 37 224 35 221
17 168 15 23 275 22 241
```

Sample Output

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2901
3419
3772
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