

# JudgeIt!

The Virtual Learning Environment for Computer Programming

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## The return of the tower bell

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Quart Concurs de Programació de la UPC - Semifinal (2006-09-20)

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*El Campanar de la Torrassa* (see picture) is the bell tower of a church located in the beautiful district of La Torrassa in the city of L'Hospitalet de Llobregat. This tower is well known for annoying its neighbors with the sound of its bells, which sound every quarter all through day and night.



Recently, this church has run short of money, so one of its two bells (specifically, the one with the bass sound) was sold. With just one bell, the priest has devised a new scheme: At each hour, the bell sounds as many times as the hour (from 1 to 12 times); also, the bell sounds once at one quarter, again at two quarters, and again at three quarters. For instance, at 19:00 the bell plays seven times. The same happens at 7:00. At 19:15, 19:30 and 19:45 the bell plays once.

The priest is happy to inform the neighbours that, with this new scheme, bells sound lesser times than in the past. For instance, if some lady wakes up in the middle of the night, say at 03:18, she will hear one bell sound at 03:30, another bell sound at 03:45 and four bells sounds at 4:00. You may observe that this lady had to wait 42 minutes since she woke up to exactly know what time it was. Moreover, she had to hear six bell sounds. (For comparison, with the traditional scheme, this lady would have heard thirteen bell sounds.)

Write a program that, given a time  $h:m$ , computes the number of minutes that someone who wakes up at  $h:m$  has to wait to exactly know the current time, and how many bell sounds he or she hears in the meantime.

### Input

Input consists of several test cases, each one with two integer numbers  $h$  and  $m$ . Assume  $0 \leq h \leq 23$  and  $0 \leq m \leq 59$ .

### Output

For each case, print a line with the number of minutes that someone who wakes up at  $h:m$  has to wait to exactly know what time it is, and the number of times that the bells have sounded in this lapse of time.

### Sample input

```
3 18
15 18
3 15
5 0
5 1
0 0
12 0
```

### Sample output

```
42 6
42 6
45 7
0 5
59 9
0 12
0 12
```

## **Problem information**

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