Eagle and Assassin's Creed

Little Eagle loves to play Assassin's Creed. One day, he found a strange treasure – a very old clock that has a different property, the minute hand that points to the minutes increases only by 5 minutes, and the hour hand points to the number exactly; they didn't invent the second hand at this time – He is wondering what's the minimum angle between the hour hand and the minute hand!.

Help him to solve this problem.

Note that (3:30) the hour hand points to 3 exactly – not between 3 and 4 – you know it's a strange treasure.

Input

The first line contains T – the number of test cases. Each test case consists of a single line containing 2 integers H (1 <= H <= 12) and M (0 <= M <= 55).

Output

For each test case, print the solution of the problem.

Example

Input:
```
2
10 10
6 15
```

Output:
```
120
90
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