
Ride Away

Input file: **standard input**
Output file: **standard output**
Time limit: 1.2 seconds
Memory limit: 256 megabytes

It's the GATE exam and there's a rush in your city since all the college students of every college in your city wishes to reach the exam center. But since papers have been leaked before, the committee wouldn't take a chance this time. They kept the exam date and time a secret. Once they e-mail the time to the students, on the day the exam is to be held, every student in your city will try to reach the exam center. You have tasked with the duty of transportation system to ensure that maximum number of students can reach the exam center in time. To do this, you decided to use a special property of your city. You know that in your city all the roads are straight lines and they intersect orthogonally(right-angles) at fixed distance of 200m. These intersection points are known as meet points.

As the head of transportation you have decided upon the following rules:

1. Each e-rickshaw can take only a single student.
2. Students can wait at meet points.
3. As the head of transportation, you know when the emails will be sent. So you will already have e-rickshaws waiting at the meet points by that time.
4. E-Rickshaws have to ensure that students reach the center within given time, else the student will be too late to enter the hall.

Input

The first line contains the number of testcases ($\text{testcases} \leq 100$).

The first line of each testcase contains the number of students ($1 \leq s \leq 100$), the number of e-rickshaws r ($1 \leq r \leq 100$), speed of the e-rickshaw ($1 \leq \text{sp} \leq 5000$) in meters per seconds and the time t to pick up a person in seconds ($1 \leq t \leq 100000$).

The next s lines contains the location of the students.

The next r lines contain the location of the e-rickshaws.

Output

For each testcase, the maximum number of students that can reach the examination center is the output.

Example

standard input	standard output
1 7 4 10 40 2 5 0 1 100 3 23 1 42 2 3 4 5 2 1 52 3 2 3 4 5 2	3