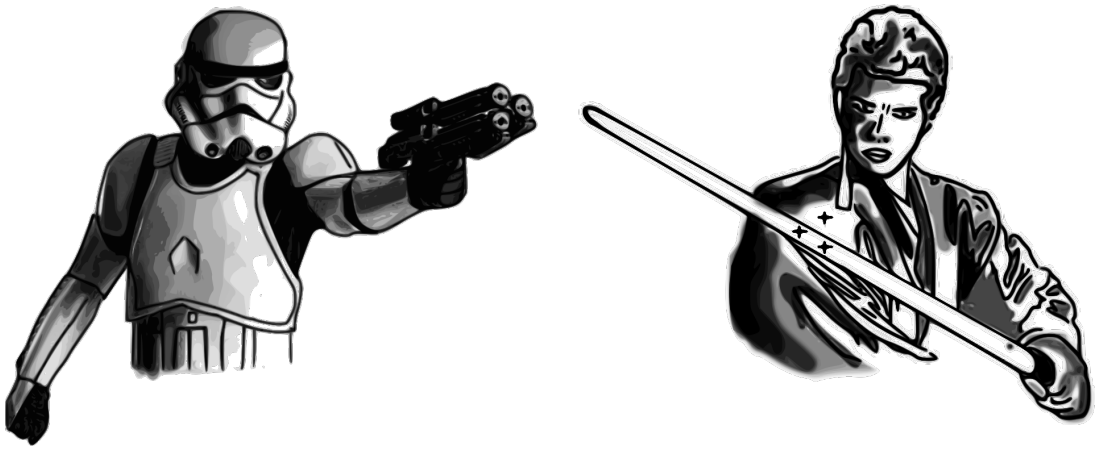
Problem F. The Jedi Killer

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	256 mebibytes

Everyone knows a Jedi can reflect blaster bolts at any speed, so a unique anti-Jedi three-blaster was invented. It can produce three shots at once, so it is impossible for a Jedi to reflect them all.



However, a new lightsaber was constructed by adding guards to the usual lightsaber. Now the guards can help in resisting the anti-Jedi blaster, but the blaster can change the location of muzzles. Everyone is now puzzled with the question: how to understand whether a particular lightsaber could reflect all the three bolts from a particular three-blaster or not. Write a program which can answer such questions.

All bolts from three-blaster fly along traces which are straight lines, all three traces are parallel to each other. Consider a plane which is perpendicular to the traces. A lightsaber can be represented as three closed line segments on the plane, one for the main ray with length L_m and two for the guards with lengths L_g, all three segments start from the same point, and the guards' segments are perpendicular to the main segment. You are given lengths L_m and L_g, and also three points on a plane describing the places where traces intersect with the plane. Find if the lightsaber can be placed to cover all the three points or not.

Input

The first line of the input contains T, the number of test cases ($1 \le T \le 10\,000$).

Each test case is given on four lines. Additionally, there is an empty line before each test case.

The first line of each test case contains two integers L_m and L_g ($1 \le L_m \le 30\,000$, $0 \le L_g \le 30\,000$). Each of the following three lines contains two integers; these are the coordinates of the three distinct points.

Each coordinate in the input doesn't exceed 10^4 by its absolute value.

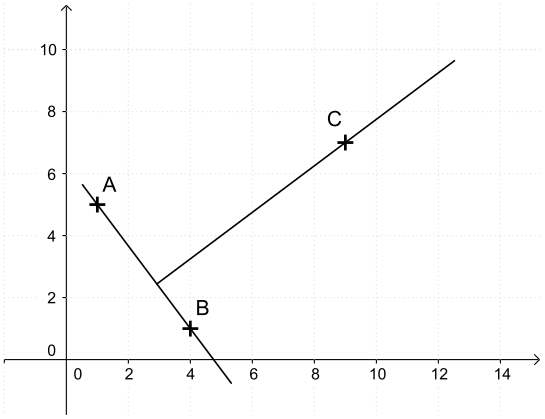
Output

For each test case, print a single line containing "`YES`" (without quotes) if the lightsaber can be placed in such a way that it will reflect all three bolts, and "`NO`" otherwise.

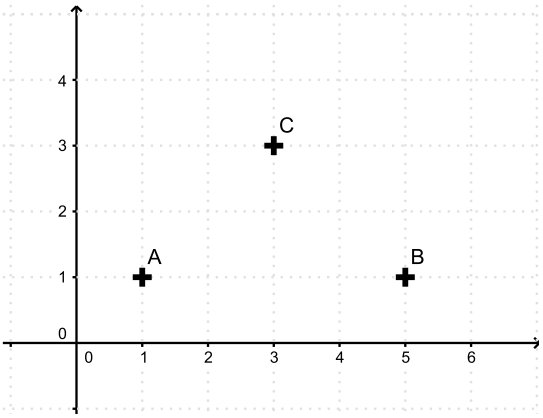
Example

standard input	standard output
2 12 4 1 5 4 1 9 7 2 1 1 1 5 1 3 3	YES NO

Note



The first testcase



The second testcase