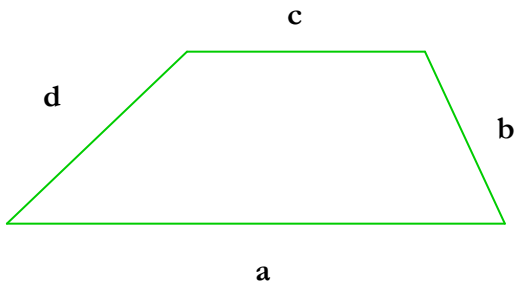
1178 – Trapezium

You are given the length of the four sides of a trapezium; you have to calculate the area. In geometry a 4-sided figure with exactly one pair of parallel sides is called a trapezium.



Input

Input starts with an integer **T (≤ 20)**, denoting the number of test cases.

Each case contains four real numbers **a b c d** denoting the sides of the trapezium. Here **a** and **c** denote the parallel sides. You can safely assume that the given trapezium is valid. Each of the numbers will be positive and not more than **200**. And no number contains more than 4 digits after the decimal point.

Output

For each case, print the case number and the area. Errors less than 10^{-6} will be ignored.

Sample Input	Output for Sample Input
2 6 5 12 5.0 9 5 6 4	Case 1: 36 Case 2: 30.0000000