D. It was a stormy day

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

It was a **stormy day**. The sky roared, and streaks of lightning danced like blades tearing through the clouds. The thunderbolt cracked the silence of the village — loud, fierce, and echoing through the mountains.

Jobel, a young and curious boy with the heart of a scientist, stood by the window. He wasn't scared. He was intrigued.

"Can I measure how far the thunderbolt struck from here?", he whispered.

Jobel knew something others ignored.

- When a cloud collision happens, it produces both light and sound.
- Light travels faster than sound almost instantaneously to the human eye at approximately 3×10^8 m/s.
- But sound is slower traveling at 331.5 m/s at 0°C, and increasing by 0.6 m/s for every +1°C rise in temperature.

Jobel had a stopwatch. He saw the lightning and then started timing. After T seconds, he heard the thunder. He also knew the temperature of that day was C degrees Celsius.

Can you help Jobel calculate the distance from his position to the origin of the thunderbolt?

Input

The first line contains a single integer t ($1 \le t \le 10^4$) — the number of test cases.

Each of the following t lines contains two space-separated real numbers:

- T ($0 \le T \le 50$) — the time difference between seeing the lightning and hearing the thunder, in seconds.
- C ($0 \le C \le 100$) — the air temperature in degrees Celsius.

Output

For each test case, print on a new line a single real number — the estimated S distance (in kilometers) from the observer to the thunderbolt, rounded to **9 decimal places**.

Example

standard input	standard output
5 10.5 20 1.2 30 5.3 25 3.1 27 7.1 28	3.606754130 0.419400489 1.836452121 1.077871249 2.472932871

Note

1. $V_{sound} = 331.5m/s$ at 0°C increasing by 0.6 m/s for every +1°C rise in temperature.

2. $V_{light} = 3 \times 10^8$ m/s
3. $S = V_{sound} \times t_{sound}$
4. $S = V_{light} \times t_{light}$