YOU & MATHS At a party, there were 200 people, of whom 5% wore one earring and, of the other 95%, half wore no earrings and half wore two earrings. How many earrings were worn at this party?

(USA *Bay Area Math Meet, BAMM, Bowl Sampler*, 1997)

To solve this word problem, we have to translate it into mathematical language.

We know that 5% of the 200 people at the party wore one earring. Let's calculate how many people and earrings that is.

$5\% \cdot 200 = \frac{5}{\cancel{100}_{1}} \cdot \cancel{200}^{2} = 10$ people wearing 1 earring → 10 earrings.

The remaining 95% of the 200 people can be calculated more easily without percentages:

total no. people − no. people with 1 earring = 200 − 10 = 190.

Half of these people wore no earrings; that is,

$190 : 2 = 95$ people wearing no earrings → 0 earrings.

The other half wore two earrings; that is,

95 people wearing 2 earrings → $95 \cdot 2 = 190$ earrings.

To calculate how many earrings were worn at the party, we just need to sum up the numbers we found:

$10 + 0 + 190 = 200$ → 200 earrings.