Math Diversion Problem 586

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The YouTube video is found at:

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Source: https://www.youtube.com/watch?v=p86xIM03aXk
Title: Why is it NOT 1?
 Presenter:  Brain Station
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1 The Problem

In a room of 100 people, 99% are left-handed. How many left-handed have to leave the room to bring that percentage down to 98%?

Hint: Don't jump to a hasty conclusion. Just use the rule for calculating percentages, and use a diagram, too.

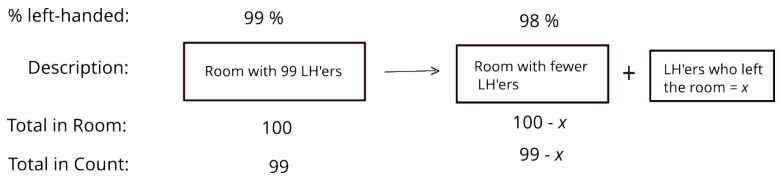

Figure 1. Without a diagram, I find it difficult to know how to proceed. This 'Total in Count' will be the numerator when calculating percentages, since it's the number of LH'ers in room.

2 The Solution

After x number of LH people leave the room, there will be $99 - x$ LH people out of a total of $100 - x$ people left in the room.

$$98\% \text{ [LH in room]} = \frac{99 - x}{100 - x} \cdot 100\% \,. \tag{1}$$

On solving this for x, we get

$$x = 50 \,. \tag{2}$$