Note that Tick, Trick and Track has 20, 23 and 25 tickets, which include an even number and two odd numbers. Let n be the number of redistribute that the trio has made. We shall prove by induction on n that under the redistribute rule set by the trio, the number of tickets each of them hold will always include two odd numbers and one even number.

At $n = 0$, the number of tickets each person has are $a_0 = 20$, $b_0 = 23$ and $c_0 = 25$; which includes two odd numbers and an even number.

Assuming that at the $n = k$-th redistribution, there are still two odds and one even number among a_k, b_k and c_k. Then at the $n = k + 1$-th distribution, there is only one way to split one's ticket into halves, which is to split the even number. Without loss of generality, assume that a_k is the even number. Then there are two possibilities:

- a) If 4 divides a_k, then $\frac{a_k}{2}$ is an even number. Regardless whether if the tickets are sent to b_k or c_k, the numbers $b_k + \frac{a_k}{2}$ and $b_k + \frac{a_k}{2}$ will be odd numbers. Therefore, the triples $(\frac{a_k}{2}, b_k + \frac{a_k}{2}, c_k)$ or $(\frac{a_k}{2}, b_k, c_k + \frac{a_k}{2})$ will also include one even number in $\frac{a_k}{2}$ and two other odd numbers.
- b) If 2 divides a_k but 4 doesn't, then $\frac{a_k}{2}$ is an odd number. However, this makes the numbers $b_k + \frac{a_k}{2}$ and $b_k + \frac{a_k}{2}$ even. Thus, the triples $(\frac{a_k}{2}, b_k + \frac{a_k}{2}, c_k)$ or $(\frac{a_k}{2}, b_k, c_k + \frac{a_k}{2})$ will also include one even number in $b_k + \frac{a_k}{2}$ or $c_k + \frac{a_k}{2}$ respectively, and two other odd numbers.

This completes the induction proof.

Because the number of tickets between Tick, Trick and Track will always include two odds and one even, there is no possibility that (b) or (c) happens, as 0 is an even number. However, (a) can be possible.