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Regulars

## The hint – world cup medallions



If  $X_n$  appears as  $Xn$  then your browser does not support subscripts or superscripts. Please use [this alternative version](#).

Let  $X_n = T_n - T_{n-1}$  where  $T_n$  is the number of medallions collected when you *first* own  $n$  different medallions. Hence  $X_1=1$ , but what do we know about  $X_n$  for other values of  $n$ ?

It might also help to remember, if  $X$  and  $Y$  are random variables, the average (or *expectation*) of  $X + Y$  is the same as the expectation of  $X$  + the expectation of  $Y$ . In symbols we may write this as

$$E(X + Y) = E(X) + E(Y)$$

Have fun!

We will publish the best explanation in the next issue, along with the answer to the problem itself. Please submit your answer, with explanation, to [Any comments?](#)

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