Monday cup #6 — Solution

Posted on: May 6, 2019

Due on: May 12, 2019

Problem

Aramat visited a famous Center called "artuafa" located near 41^0. It was a round structure consisting of 60 steps in spiral stairway to reach top. From top you can have overview of natural beauty surrounding that place. Aramat thought of reaching the top. She also carried a lot of chocolates with her for kids. In the process of climbing up, with each step a chocolate falls from her bag. When she reaches top, she gives half of the chocolates left with her to small kids. Again, in the process of climbing down a chocolate falls down with each step.She repeats the same process at five once and now she is left with no chocolates. Can you find out the total number of chocolates she had with her initially?

Solution: 5580 chocolates
Explanation: Let us begin from the end. We have fifth "artuafa" to consider first.
•   **Aramat climbed down hundred steps so after donating she must be left with 60 chocolates. Now she donates half of total chocolates so before donating she must be having 120 chocolates.**
•   **Now she loses 60 chocolates while climbing up so in total she must be having 180 chocolates before climbing fifth "artuafa" .**
•   **Now the same procedure is followed for fourth "artuafa" . So before climbing fourth she must be having (180+60)X2+ 60 chocolates which amounts to 540.**
•   **Before climbing third, she must be having (540+60)X2+60 which amounts to 1260. Now before climbing second she must be having 2700 chocolates.**
•   **At last , before climbing first she must be having 5580 chocolates. So initially she had in total 5580 chocolates.**
This puzzle is contributed by Ankur Chaudhary. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

There was no correct solution to problem 6.

Rules

1.   Anyone is eligible to participate. Each solution is to be the work of one individual without any input from faculty or others. An answer must be accompanied by appropriate justifications to be considered correct.
2.The solution is to be submitted with the solver's name, email, year in school (if applicable), local phone number, and local address. If you are submitting this for possible credit in a class, include your class number and instructors name.

3.The solution is to be typed or legibly written. Solutions must be submitted to the by 2 p.m. on the due date.
4.Entries will be graded on clarity of exposition and elegance of solution. An award of GEL10 will be given for the best correct solution. In
the case of a two-way tie, the award will be split. If there are more than two best solutions, a drawing will be held to determine two award winners.
5. Graduate students, faculty, and members of the general public are encouraged to submit solutions, but they will not be considered.
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ორშაბათის თასი, кубок понедельника, Monday cup, Coppa del lunedì, Coupe du lundi
Solution for this problem can be submitted proveweek@gmail.com