



Monday cup #2

Posted on: April 8, 2019

Due on: April 15, 2019

Sam the Raven found a basket of Nuts one morning. He decided that every day he would Double the number of Nuts in the basket in the morning and eat 2 Nuts out of the basket in the afternoon. At the end of the third day, there were 34 Nuts in The basket. How many Nuts were in the basket when Sam the Raven found it?



Solution: We will work backwards to find how many Nuts there were initially.

3rd day:

- At the end of the afternoon, Sam had 34.
- At the beginning of the afternoon, he had $34 + 2 = 36$.
- At the beginning of the morning, he had $36 \div 2 = 18$.

2nd day:

- At the end of the afternoon, he had 18.
- At the beginning of the afternoon, he had $18 + 2 = 20$.
- At the beginning of the morning, Sam had $20 \div 2 = 10$.

1st day:

- At the end of the afternoon, Sam had 10.
- At the beginning of the afternoon, he had $10 + 2 = 12$.
- At the beginning of the morning, he had $12 \div 2 = 6$.

Solutions for this problem were submitted by Data Bochorishvili (Georgia, the country)

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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Solution for this problem can be submitted proveweek@gmail.com