

RAM Maths Circle

Date: January 27, 2024
Swami Vivekanand School, Dombivli

The following problems were discussed in this session.

- A natural number n is 'good' if we can write $n = a_1 + a_2 + \dots + a_k$ where a_1, a_2, \dots, a_k are natural numbers not necessarily distinct, such that $\frac{1}{a_1} + \frac{1}{a_2} + \dots + \frac{1}{a_k} = 1$ find 'good' numbers up to 25.
- Think of a situation in which two (mathematically skilled) thieves steal a necklace that contain two types of gems - diamonds and rubies. These thieves are fair, and they decide that they will each receive an equal number of diamonds and rubies. To distribute their treasure, they want to cut the necklace using the least possible cuts. What is the smallest number of cuts they must perform to split the necklace fairly between them? In order words, what is the least number of cuts they need to make to divide the loot into equal number of diamonds and equal number of rubies for each other.

