RAM Maths Circle

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Swami Vivekanand School, Dombivli

Facilitators started with following the question.

- Consider a sequence $1, 2, 3, \ldots, 11$. Remove any two numbers a, b from the sequence and add $a+b-1$ in the sequence. Comment on the number left after doing the same operation 10 times.

  - Is it always same? If yes, why?
  - Can you find the number left for the sequence $1, 2, \ldots, 101$ if we do the same operation 100 times?
  - Generalize this to sequence $1, 2, \ldots, n$ and $(n-1)$ operations
  - Replace $a + b - 1$ to $a + b - 2$ and solve all questions.

Facilitators introduced a new type of sequence $1, 4, 9, \ldots, 49$ and asked students to apply the same operation and get the generalized expression.