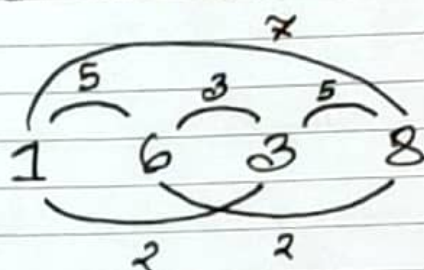


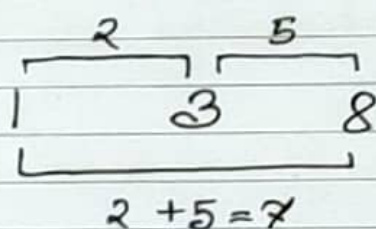
DATE: __/__/__

Sum of difference of all the numbers:



So, the answers should be $= 5 + 2 + 7 + 3 + 2 + 5$
 $= 24$

Here, one thing to notice that we are summing up the gaps between all the pairs. So, if we sort all the numbers then we can find the total gap of two non-adjacent numbers by using the logic of prefix sum.

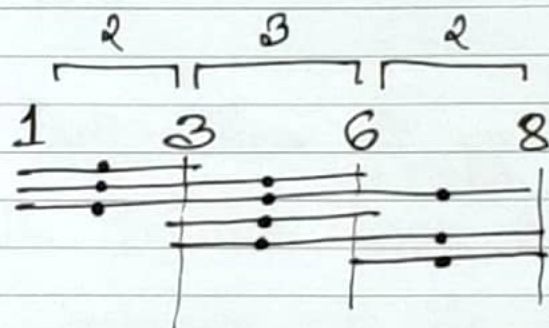


Okay this was the visualizing institutions. Now let's jump into the main theme.



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Suppose we need to find the sum of all the gaps ~~then~~ then what we need to do is, to check how many times the gap is contributing in the sum.



Here, we can see that gap 2 is contributing 3 times, gap 3 is contributing 4 times and gap 2 is contributing 3 times.

$$\text{So, sum will be} = (3 \times 2) + (4 \times 3) + (3 \times 2) \\ = 24$$

Now, how ~~to~~ to find the numbers of contribution for a gap?

It's simple. You just need to find the amount of numbers present before the end of the gap and amount of numbers present from end of the gap to the actual end ~~and~~ and multiply them.

$(\text{X})(\text{X})(\text{X}) \xrightarrow{\text{gap}} (\text{X})(\text{X}) \rightarrow 3 \times 2$ for this gap

