Break It, Stick It Together, Make a Triangle

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In this project, we intented to find how many triangles that have integer edges we can form by seperating an integer lentgh into three parts. First, we studied for lengths 12,13 and 14 and wrote all the trios in tables systematically. We found the number of trios for each first part. Then we found the total of all the trios for all first parts. Then we found the maximum value of first part. We found the total number of all the trios that can be made from a certain length. After that we found the formula that gives us the number of all trios that can be made from a certain length. Now we have to take out the trios that doesn't form a triangle. For that, again, we studied for lengths 12, 13, and 14 and wrote all the trios that doesn't form a triangle. Then we found the number of trios that doesn't form a triangle for each first part. After that we found the total number of trios that doesn't form a triangle. Then we found the maximum value of the first part. Next we wrote the formula that gives us the number of trios that doesn't form a triangle. After all these, we subtracted the second formula from the first one and got the number of triangles that can be formed from a certain length.