***Math formula to calculate 24 hour clock***

1. Conversion of 12 hour clock to 24 hour clock time

* 12 midnight to 12.58 am subtract 12 from the given time. Exmaple=12.35 am=12.35-12.00=00.35h
* 01.00 am to 12.59 pm is written as it is in hour. Example:3 am=3.00h
* 01.00 pm to 12.59pm add 12 to the given time. Example:5pm=5.00+12.00=17.00 h

1. Convertion of 24 hour clock to 12 hour clock time

* 00.00 h to 00.59 h add 12.00 h to the given time and write it in am. Example:00.15h=00.15+12.00=12.15 am
* 01.00 h to 11.59 h is written as am. Example: 11:25 h=11.25 am
* 12.00 h to 12.59 h is written as it is in pm. Example:12.45 h=12.45h
* 13.00 h to 23.59 h subtract 12.00 h from the given time and write it in pm. Example: 22.00 h=22.00-12.00=10.00 pm

Now adding and subtracting in 24 hour

5h 18 min+3h 24 min=8h 42 min

6h 35 min + 4h 47 min=10h 82 min(1h =60min)

=10h 60min +22 min=11h 22min

9h 54min-3h 31min =6h 23min

8h 27min-4h 39 min=3h 48min

***Now for time math for programmers:***

Let’s take the hour to minute first. Like hour\*60+minute as we know 1 hour is 60 minute then we can do subtraction and addition. Let’s take A is given 7 h 23 minute. Which by calculation will be 443 minutes. Now B is given 12 h 30 minute which will be 750 min. now if we subtract it or add it but for now let’s subtract it. Which store in C and it becomes 307 min. Now to turn it into 24 hour format to find the hour divide with by 60 min h=307/60 and we get the hour and for the min mod it with 60 m=307%60 and we get the minute. Which is 5 h 7 min.

Now in case the differ became negative then add the differ with 24 hour which is 1440 min(24\*60) and then take it to hour and minute format. We can also do it with logical method given at the beginning in the document.