Week 1 Problems

Note before

1. ***Please show your working for all of these problems and not just the final solution.***
2. If the base of the number is not given, assume it to be base 10.

Problems

1. Convert the number $(452873863)_{10}$ to binary. Convert the obtained number back to base-10 to verify your results.
2. Convert the number $(84851)_{10}$ to octal. Convert the obtained number back to base-10 to verify your results.
3. Convert the number $(10101110101010111010101011010001110110101010111010101 11)_2$ to hexadecimal. Convert the hexadecimal number back to binary to verify your results
4. Convert the number $(10101110101010111010101011010001110110101010111010101 11)_2$ to decimal.
5. Convert the number $(10101011111111110001100111010 11)_2$ to Octal. (*Hint*: Convert the binary number to decimal first and then the resulting number to Octal.)
6. Solve them in the sequence listed
   a. Convert 879 to binary.
   b. Convert 4566 to binary.
   c. Add the two numbers in binary.
   d. Convert the result from c to decimal.
7. Solve them in the sequence listed
   a. Convert 7455 to Octal.
   b. Convert 412 to Octal.
   c. Add the two numbers in Octal.
   d. Convert the result from c to decimal.