Do the following computations in the bases provided:

1. $1011010111 + 101100011$ (base 2)
2. $A3F + DA6$ (base 16)
3. $569 + 878$ (base 16)
4. $677 + 466$ (base 8)
5. $677 + 466$ (base 10)
6. $677 + 466$ (base 16)
7. Convert 683 (base 10) to base 16
8. Convert $3BE$ (base 16 to decimal)
9. Convert 952 (base 10 to base 16)
10. Convert 952 (base 10) to base 2
11. Multiply $32A$ and $1BF$ (base 16). Stay in base 16 as much as possible.
12. Multiply 235 and 726 (base 8). Stay in base 8 as much as possible.
13. How many binary digits are required to store the decimal number 241?
14. How many binary digits are required to store the decimal number 2539?
15. How many binary digits are required to store the hexadecimal number $2E5$?
16. Suppose a number requires 50 decimal digits to express it. About how many binary digits are required?
17. Suppose a number requires 50 decimal digits to express it. How many hexadecimal digits are required?