

University of Massachusetts
Department of Electrical and Computer Engineering

ECE 160
Lab #1

Name: numbase.txt
due: see <http://www.ece160.org>

NOTE: if a problem cannot be solved indicate why in your answer. Also all numbers in 14-25 are in base 16 (& = bitwise AND, | = bitwise OR, ~ = bitwise compliment, ^ = bitwise XOR). Be sure to give your answer in the proper base. It is up to you whether you wish to use a calculator to do this sheet...keep in mind that calculator use is NOT allowed on any exams.

1. $110011101|_2 = ? |_{10}$
2. $70|_8 = ? |_{10}$
3. $34|_8 = ? |_{16}$
4. $47|_{10} = ? |_2$
5. $511|_{10} = ? |_{16}$
6. $265|_{10} = ? |_2$
7. $41E|_{16} = ? |_{10}$
8. $FECDBA |_{16} = ? |_8$
9. $10110110|_2 = ? |_{16}$
10. $100010011|_2 = ? |_8$
11. $363|_8 = ? |_2$
12. $1BA|_{16} = ? |_8$
13. $54|_{16} = ? |_2$

All remaining values are in base 16; all answers must be in base 16

14. $2053 \& F0F0 = ?$
15. $14F7B3 \& E780 = ?$
16. $FF00 \wedge 7FFF = ?$
16. $FACE | \sim DEED = ?$
17. $ACDC | EA7 = ?$
19. $\sim FF = ?$ (express in 8 bits, i.e. 2 hex digits)
20. $\sim 10 = ?$ (express in 8 bits, i.e. 2 hex digits)
21. $63 \wedge 63 = ?$
22. $A \wedge 5 = ?$
23. $(\sim FF) \wedge A0 = ?$
24. $(FADE|7777) \wedge (9999) = ?$
25. $123 | 66AA \& 6655 = ?$