Math 101 Section:_____ **Name**_____

ADDITION AND SUBTRACTION IN ANY BASE

BASE 4

1) $3_4 + 3_4$ 2) $1232_4 + 3022_4$ 3) $32_4 - 13_4$ 4) $21023_4 - 20132_4$

BASE 16

5) $A_{16} + B_{16}$ 6) $E97B_{16} + ACD1_{16}$ 7) $76_{16} - 2B_{16}$ 8) $F812_{16} - 1C9A_{16}$

BASE 2

9) $1_2 + 1_2$ 10) $10111_2 + 11001_2$ 11) $101_2 - 10_2$ 12) $1100010_2 - 111011_2$

BASE 12

13) $6_{12} + 7_{12}$ 14) $A928_{12} + 17BB_{12}$ 15) $10_{12} - 8_{12}$ 16) $9B03_{12} - 21A8_{12}$

See side 2 when finished − >

EXTENDING INTO MULTIPLICATION

If you finish the entire first page before class is over, here is an extension for you to use to test yourself. So far we have looked at addition and subtraction in other bases. Given what you know about that and given what you know about standard multiplication in base 10, try to make the leap to multiplication in other bases.

1) What is $2_5 \times 3_5$ in base 5?

2) What is $4_5 \times 4_5$ in base 5?

3) What is $3_5 \times 10_5$ in base 5?

4) Use the standard algorithm to multiply $21_5 \times 34_5$ in base 5.

5) Use the standard algorithm to multiply $123_5 \times 234_5$ in base 5.