1 11
1 6
0 5

16
×2
32

13
14
27

13 + 14 = 16 | 27 (1, remainder 11)

Lab 1 (b): Basic Concepts

Problem 1: Subtract the following hexadecimal numbers

7ACD - 3AFE = ?

7 A C D → 7 decimal

- 3 A F E →

3 F C F

A = 10
C = 12
D = 13
E = 14
F = 15

7	10	12	13
3	10	15	14

13 - 14

16 + 13 = 29

E = -14

15 = F

16 + 9 = 25

A = -10

15 = F

16 + B = 27

F = -15

12 = C

- 3 A F E

3 F C F

Problem 2: Convert 01110110 into 2's complement.

1. flip the bits

10001001

2. Add 1

1 0 0 0 1 0 0 1
+ 0 0 0 0 0 0 0 1

1 0 0 0 1 0 1 0

* positive # since most significant bit is 0

* Now the # is negative since the most significant bit is 1

01110110 → in 2's complement. → 10001010

Problem 3: Subtract the following Octal number

765 - 377

base is 8

8 + 5 = 13 - 7 = 6

- 3 7 7

1 3 6 6