

## Chapter 5 Exercises

5.2 a) Find the 16-bit 2's complementary binary representation for the decimal number 1987

1987

993 - 1

496 - 1

248 - 0

124 - 0

62 - 0

31 - 0

15 - 1

7 - 1

3 - 1

1 - 1

→ 0000 0111 1100 0011

b) Find the 16-bit 2's complementary binary representation for the decimal number -1987

0000 0111 1100 0011

1's comp → 1111 1000 0011 1100

2's comp → 1111 1000 0011 1101

c) From your answer in (b) find the ~~16~~ 6-digit 16's complement hexadecimal representation for the decimal number -1987

→ FFF83D

5.5 What are the 16-bit 1's complement & 2's complement of the following numbers.

a) 10000

1's Complement: 01111

2's Complement: 10000

b) 100 1111 0000 1001

1's Complement: 011 0000 1111 0110

2's Complement: 011 0000 1111 0111

c) 0100 1110 0010 0100

1's Complement: 1011 0001 1101 1011

2's Complement: 1011 1110 0010 1100