Assignment 1
ITI1100C - Brennan McDonald - 8195614

1-3:
A) 580
B) 260
C) 285
D) 137

1-7:
64CD = $(0110\ 0100\ 1100\ 1101)_2$ = $(62315)_8$

1-9:
  A) $(10110.0101)_2$ = $(22.3125)_{10}$
  B) $(16.5)_{16}$ = $(22.3125)_{10}$
  C) $(26.24)_8$ = $(22.3125)_{10}$
  D) $(DADA.B)_{16}$ = $(56026.6875)_{10}$
  E) $(1010.1101)_2$ = $(10.8125)_{10}$

1-13:

  A) 11011.010100001
  B) $(⅔)_{10}$ = $(0.6666666666)_2$ = $(0.10101010)_2$
      Re-converted to decimal
      $(0.10101010)_2$ = $(0.6640625)_{10}$
  C) $(0.6640625)_{10}$ = $(0.AA0000)_{16}$ = $(0.664062)_{10}$

1-14:

  A) One's Complement: 11101111
      Two's Complement: 11110000

  B) One's Complement:11111111
      Two's Complement:00000000

  C) One's Complement:00100101
      Two's Complement:00100110

  D) One's Complement:01010101
      Two's Complement:10101011

E) One's Complement:01111010
   Two's Complement:01111011

F) One's Complement:00000000
   Two's Complement:00000001

1-16:

A) $(3C21)_{16}$
B) $(3C21)_{16} = (1100001111011111)_2$
C) $(11110000100001)_2$
D) $(11110000100001)_2 = (3C21)_{16}$

1-17:

A) 4637 + (10000 - 2579) = 12058 => (12058 - 10000) = 2058
   Checking: 4637 - 2579 = 2058

B) 125 + (10000 - 1800) = 8325 => (8325 - 10000) = -1675
   Checking: 125 - 1800 = -1675

C) 2043 + (10000 - 4361) = 7682 => (7682 - 10000) = -2381
   Checking: 2043 - 4361 = -2381

D) 1631 + (10000 - 745) = 10886 => (10886 - 10000) = 886
   Checking: 1631 - 745 = 886

1-18:

A) $(10011)_2 + (01110)_2 = (100001)_2$
   Discard the carry we get
   $(0001)_2 = (1)_{10}$

B) $(100010)_2 + (011010)_2 = (111100)_2$
   Since there is no carry we get
   $(111100)_2 = (000011)_2 = (-000100)_2 = (-4)_{10}$

C) $(1001)_2 + (001011)_2 = (010100)_2$
   Since there is no carry we get
   $(010100)_2 = (101011)_2 = (-101100)_2 = (-44)_{10}$

D) $(101000)_2 + (1101011)_2 = (1010011)_2$
Discard the carry we get
$(010011)_2 = (19)_{10}$