(c)

```
 11001101        110>101   q1=1;subtract
 -101
  010            010<101   q2=0;do not subtract
  -101
   101           101≥101   q3=1
   -101
    001          001<101   q4=0
    -101
     010         010<101   q5=0
     -101
      101        101<101   q6=1
      -101
        0   <--remainder
   101001   <--quotient
```

(d)

```
      11010
     x11001
      11010
     00000
    00000
   11010
 + 11010
 1010001010
```

1.12 (a) two's complement

```
                   2's complement
 1011010             1011010
- 10101              1101011
                    11000101
                  =  1000101

   10101             0010101
-1011010            +0100110
                     0111011   =-(1000101)
```

(b) one's complement

```
                   1's complement
 1011010             1011010
- 10101             +1101010
                    11000100
                    +      1
                     1000101   =(1000101)

   10101             0010101
-1011010            +0100101
                     0111010   =-(1000101)
```


1.13 (a) nine's complement

```
                9's complement
 1875             1875
 -924            +9075
                 10950
                 +   1
                  0951    =951

  924              0924
-1875             +8124
                   9048   =-(951)
```

(b) ten's complement

```
                10's complement
 1875             1875
 -924            +9076
                 10951    =951

  924              0924
-1875             +8125
                   9049   =-(951)
```

```
1.14 (a)  113     0 1110001
          -87    +1 0101001
                 10 0011010   =+(0011010)2

     (b)   87     0 1010111
         -113    +1 0001111
                  1 1100110   =-(0011010)2

     (c)   43     0 0101011
          +26    +0 0011010
                  0 1000101   =+(1000101)2

     (d)   96     0,1100000
          -22    +1 1101010
                 10 1001010   =+(1001010)2

     (e)   46     0 0101110
          -77    +1 0110011
                  1 1100001   =-(0011111)2
```

```
1.15 (a)   7256            scratch pad   octal
          x  23            6x3=            22
          26012  <--P1     5x3=           17
         16534   <--P2     2x3=           6
         213352            7x3=          25
                                         26012 <-- P1
                           6x2=            14
                           5x2=           12
                           2x2=           4
                           7x2=          16
                                         16534 <--P2
```