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#121260 Activity 1.1 Prof. Luis Ortiz

1. Binary representation.
   1. 4 = 01002
   2. -26 = 1110 01012
2. Decimal representation of unsigned binary.
   1. 100010002 = 136
   2. 000010012 = 9
3. Decimal representation of signed binary.
   1. 1111111102 = -2
   2. 0100000012 = 129
4. Addition
   1. 000001012 + 000000112 =0000 10002
   2. 111100002 + 100000002 = 1 0111 00002
5. Subtraction
   1. 000100002 - 000000012 = 0001 00012
   2. 000011012 - 000010112 =0001 10002

Answers:

1. Exercise 1
   1. 4 = 1002
      1. 4/2 = 2 = 0
      2. 2/2 = 1 = 0
      3. 1/2 = 0 = 1
   2. -26 = 000110102 + 0000 0001 = 1110 01012
      1. 26/2 = 13 = 0
      2. 13/2 = 6 = 1
      3. 6/2 = 3 = 0
      4. 3/1 = 1 = 1
      5. 1/2 = 0 = 1
2. Exercise 2
   1. 100010002 = 136
   2. 000010012 = 9
3. Exercise 3
   1. 1 1111 11102 = -2
   2. 0 1000 00012 = 129 , only carried 1 can change the decimal number to negative.
4. Exercise 4
   1. 0000 01012

+ 0000 00112

=0000 10002

* 1. 1111 00002

+ 1000 00002

= 1 0111 00002

1. Exercise 5
   1. 0001 00002

- 0000 00012

= 0001 00012

* 1. 0000 11012

- 0000 10112

= 0001 10002