Solutions

0. Convert these binary to desimal

1. 10100110 -> 166
2. 101111100 -> 380
3. 10001100 -> 140
4. 11001011 -> 203

5. 100111 -> 39

1. Convert these desimal to binary

6. 470 -> 111010110

7. 328 -> 101001000
8. 102 -> 1100110
9. 415 -> 110011111

10. 315 -> 100111011

2. Add these binary numbers

11. 1011000 + 110100001 = 111111001

12. 110011100 + 111010011 = 1101101111
13. 10100101 + 1010100 = 11111001
14. 100011100 + 100001 = 100111101
15. 110010100 + 111000001 = 1101010101

3. Subtract these binary numbers

1. 10010100 - 111100 = 1011000
2. 11001111 - 11001101 = 10
3. 110010101 - 101000010 = 1010011
4. 110010101 - 11001100 = 11001001
5. 110100111 - 10010101 = 100010010

4. Multiply these binary numbers

1. 101011111 * 1000 = 101011111000
2. 1011111 * 111 = 1010011001
3. 111000111 * 1000 = 111000111000
4. 100101 * 111 = 100000011
5. 111000100 * 111 = 110001011100

5. Divide these binary numbers

1. 11110 / 110 = 101
2. 111110000 / 1000 = 111110
3. 110100010 / 1011 = 100110
4. 101110011 / 111 = 110101
5. 1101000 / 1000 = 1101

6. Find the ones complement of these binary numbers

1. 111100011 -> 11100
2. 110101111 -> 1010000
3. 100110010 -> 11001101
4. 11011100 -> 100011
5. 100011110 -> 11100001

7. Find the twos complement of these binary numbers

1. 101101101 -> 10010011
2. 1101001 -> 10111
3. 111101101 -> 10011
4. 1101111 -> 10001
5. 100000 -> 100000

8. Convert these floating point numbers to binary

1. 487.62380563311785 -> 111100111.1001111110
2. 266.9109900439871 -> 100001010.1110100100
3. 66.54180359452303 -> 1000010.1000101010
4. 446.8970354398708 -> 110111110.1110010110
5. 416.73160606146723 -> 110100000.1011101101