Exercises: Number Bases 1

Exercises

- 1. Convert the following numbers to binary and to hexadecimal:
 - (a) 57_{10}
 - (b) 353₁₀
- 2. Convert the following numbers to binary and to denary:
 - (a) $5D_{16}$
 - (b) $1A3_{16}$
- 3. Do the following additions:
 - (a) $10110_2 + 111100111_2$
 - (b) $1C_{16} + 239_{16}$
 - (c) $A79_{16} + 8F_{16}$
- 4. Perform the indicated calculations on the following binary numbers:
 - (a) 11010 + 1110
 - (b) 111.0101 + 10.0111
 - (c) 1100110 + 11010
 - (d) 11001.11 1011.1
 - (e) 1011 100110
 - (f) 0.1101 0.1110

Solutions

- 1. Convert the following numbers to binary and to hexadecimal:
 - (a) $57_{10} = 111001_2 = 39_{16}$
 - (b) $353_{10} = 101100001_2 = 161_{16}$
- 2. Convert the following numbers to binary and to denary:
 - (a) $5D_{16} = 01011101_2 = 93_{10}$
 - (b) $1A3_{16} = 000110100011_2 = 419_{10}$

- $3.\,$ Do the following additions:
 - (a) $10110_2 + 111100111_2 = 10101010_2$
 - (b) $1C_{16} + 239_{16} = 255_{16}$
 - (c) $A79_{16} + 8F_{16} = B08_{16}$
- 4. Perform the indicated calculations on the following binary numbers:
 - (a) 11010 + 1110 = 0101000
 - (b) 111.0101 + 10.0111 = 1001.1100
 - $(c) \ 1100110 + 11010 = 10000000$
 - $(\mathrm{d})\ 11001.11-1011.1=100101.01$
 - (e) 1011 100110 = -011011
 - (f) 0.1101 0.1110 = -0.0001