

Exercises: Number Bases 1

Exercises

1. Convert the following numbers to binary and to hexadecimal:
 - (a) 57_{10}
 - (b) 353_{10}
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) $57_{10} = 11\ 1001_2 = 39_{16}$
 - (b) $353_{10} = 1\ 0110\ 0001_2 = 161_{16}$
2. Convert the following numbers to binary and to denary:
 - (a) $5D_{16} = 0101\ 1101_2 = 93_{10}$
 - (b) $1A3_{16} = 0001\ 1010\ 0011_2 = 419_{10}$

3. Do the following additions:

(a) $10110_2 + 111100111_2 = 1010\ 1010_2$

(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) $1100110 + 11010 = 10000000$

(d) $11001.11 - 1011.1 = 100101.01$

(e) $1011 - 100110 = -011011$

(f) $0.1101 - 0.1110 = -0.0001$