

Weather updates will be posted at
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1.5 Cont'd

Octal	Binary
0_8	000_2
1_8	001_2
2_8	010_2
3_8	011_2
4_8	100_2
5_8	101_2
6_8	110_2
7_8	111_2

Blocks of 3 digits

Hexadecimal	Binary
0_{16}	0000_2
1_{16}	0001_2
2_{16}	0010_2
3_{16}	0011_2
4_{16}	0100_2
5_{16}	0101_2
6_{16}	0110_2
7_{16}	0111_2
8_{16}	1000_2
9_{16}	1001_2
A_{16}	1010_2
B_{16}	1011_2
C_{16}	1100_2
D_{16}	1101_2
E_{16}	1110_2
F_{16}	1111_2

Blocks of
4 digits

To convert between octal and hexadecimal, convert to binary first.

Ex: Convert

a) $1.3_8 \rightarrow$ hexadecimal

$$= 001.011_2$$

$$= \underline{0001}.011\underline{0}_2$$

$$= 1.6_{16}$$

b) $30D1_{16} \rightarrow$ octal

$$= 0011\ 0000\ 1101\ 0001_2$$

$$= \cancel{0}011\ |000\cancel{0}\ 11\ |01\ 0\ |001_2$$

$$= 3\ 0\ 3\ 2\ 1_8$$

c) $5670_8 \rightarrow$ hexadecimal

$$= 101\ 110\ 111\ 000_2$$

$$= 101\ |110\ 111\ |000_2$$

$$= B\ B\ 8_{16}$$

d) $A1.B2_{16} \rightarrow$ octal

$$= 1010\ 0001.1011\ 0010_2$$

$$= \underbrace{010}_{\text{2}} \mid \underbrace{1000}_{\text{4}} \mid \underbrace{1010}_{\text{1}} \mid \underbrace{100100}_{\text{544}} \text{ }_8$$

1.4 Sugg HW #19
 Convert 37.875 to octal

	Q	R		I	N
$37 \div 8$	4	5	\uparrow	7	0
$4 \div 8$	0	4	\downarrow		

0.875×8

$$37.875 = 45.7_8$$