Converting Decimal Numbers to Octal Numbers

Repeated process:

1. Divide by 8 and write the remainder.
2. Continue this process until you get a division answer of zero and a remainder that is between 0 and 7.
3. Read the Octal from bottom-up. (base 8 … 8 different representations)

Example: Change 220_{dec} to Octal

8)220

27	4
3	3
0	3

220 decimal is 334 as Octal

Change 1246_{dec} to Octal

8) 1246

155	6
19	3
2	3
0	2

1246 decimal is 2336 as Octal

Try these and verify that you can get the right answer …

$198_{dec} \rightarrow 306_{oct}$ $2958_{dec} \rightarrow 5616_{oct}$ $87_{dec} \rightarrow 127_{oct}$

Converting Decimal Numbers to Hexadecimal Numbers

Repeated process:

1. Divide by 16 and write the remainder.
2. Continue this process until you get a division answer of zero and a remainder that is between 0 and 15.
3. Read the Hexadecimal from bottom-up.
4. Remember: 0 - 9, A=10, B=11, C=12, D=13, E=14, F=15 (this is base 16 … 16 different representations)

Example: Change 220_{dec} to Hexadecimal

16)220

13	12
0	13

220 decimal is DC as hexadecimal

Change 1246_{dec} to Hexadecimal

16) 1246

77	14
4	13
0	4

1246 decimal is 4DE as hexadecimal

Try these and verify that you can get the right answer …

$198_{dec} \rightarrow C6_{hex}$ $2958_{dec} \rightarrow B8E_{hex}$ $87_{dec} \rightarrow 57_{hex}$