

HW
M1WS2

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Numbering System Conversions

Show Work! Point deduction taken if work not shown

1. Convert 147_{10} to binary

$$\boxed{10010011_2}$$

$$128 - 64 - 32 - \cancel{16} - 8 - 4 - 2 - 1$$

$$128 + 16 + 2 + 1 = 147$$

$$\begin{array}{r} \\ \\ 1 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 1 \end{array}$$

2. Convert 63_{10} to binary

$$\boxed{11111_2}$$

$$32 - 16 - 8 - 4 - 2 - 1$$

$$32 + 16 + 8 + 4 + 2 + 1 = 63$$

3. Convert 97_{10} to hexadecimal

$$\boxed{61_{16}}$$

$$97 / 16 = 6 \text{ R } 1$$

$$95 / 16 = 5 \text{ R } 15$$

$$5F_{16}$$

4. Convert 95_{10} to hexadecimal

$$\boxed{5F_{16}}$$

5. Convert $3D_{16}$ to binary

$$\boxed{00111101_2}$$

$$3 = 0011$$

$$D / 16 = 1101$$

6. Convert 235_{10} to hexadecimal. Then convert hexadecimal value to binary

$$235 / 16 = 14 \text{ R } 11$$

$$EB_{16}$$

$$\boxed{EB_{16}} \downarrow$$

$$E / 16 = 1110$$

$$B / 11 = 1011$$

$$\boxed{11101011_2} \downarrow$$