

Hw  
M1WQ1

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## Numbering System Conversions

Show Work! Point deductions taken if work not shown

1. Convert  $1011_2$  to decimal

110

$$\begin{array}{r} 1011 \\ 8 + 2 + 1 = 11_{10} \end{array}$$

2. Convert  $111011_2$  to decimal

59<sub>10</sub>

$$32 \begin{array}{l} | \\ 16 \\ | \\ 8 \\ | \\ 4 \\ | \\ 2 \\ | \\ 1 \end{array} = 59_{10}$$

3. Convert  $1011101_2$  to decimal

193<sub>10</sub>

$$\begin{array}{ccccccccc}
 & 32 & & 8 & & R & & & \\
 | & \emptyset & | & | & | & \emptyset & | & & \\
 64 & & 16 & & 4 & & & & = 9_{10} \text{, } 93_{10}
 \end{array}$$

4. Convert  $111000_2$  to decimal

56<sub>10</sub>

$$\begin{array}{r} 32 \quad 8 \\ | \quad | \quad | \quad \emptyset \quad \emptyset \quad \emptyset \\ 16 \quad 4 \quad 2 \quad 1 \\ \hline & & & = 56_{10} \end{array}$$

5. Convert  $1100011_2$  to decimal

99<sub>10</sub>

$$\begin{array}{r}
 32 \\
 | \quad | \quad | \quad | \\
 1 \quad 1 \quad 8 \quad 2 \\
 64 \quad 18 \quad 4 \quad 1 \quad 1 \\
 = 99_{10}
 \end{array}$$

6. Convert  $11111111_2$  to decimal

255<sub>10</sub>

$$128 \quad 32 \quad 8 \quad 2 \\ | \quad | = 255_{10} \\ 64 \quad 16 \quad 4 \quad 1$$