

Numbering System Conversions

Show Work! Point deductions taken if work not shown

1. Convert 1011_2 to decimal

$$\boxed{11_{10}}$$

$$\begin{array}{cccc} 1 & 0 & 1 & 1 \\ 8 & + & 2 & + & 1 & = & 11_{10} \end{array}$$

2. Convert 111011_2 to decimal

$$\boxed{59_{10}}$$

$$\begin{array}{ccccccc} 1 & 1 & 1 & 0 & 1 & 1 \\ 32 & 16 & 8 & 4 & 2 & 1 & = & 59_{10} \end{array}$$

3. Convert 1011101_2 to decimal

$$\boxed{93_{10}}$$

$$\begin{array}{ccccccc} & 32 & & 8 & & 2 & \\ 1 & 0 & 1 & 1 & 1 & 0 & 1 \\ 64 & & 16 & & 4 & & 1 & = & 93_{10} \end{array}$$

4. Convert 111000_2 to decimal

$$\boxed{56_{10}}$$

$$\begin{array}{ccccccc} 32 & & 8 & & & & \\ 1 & 1 & 1 & 0 & 0 & 0 & \\ & 16 & & 4 & & 2 & & 1 & = & 56_{10} \end{array}$$

5. Convert 1100011_2 to decimal

$$\boxed{99_{10}}$$

$$\begin{array}{ccccccc} 32 & & 8 & & 2 & & \\ 1 & 1 & 0 & 0 & 0 & 1 & 1 \\ 64 & & 16 & & 4 & & 1 & = & 99_{10} \end{array}$$

6. Convert 1111111_2 to decimal

$$\boxed{255_{10}}$$

$$\begin{array}{ccccccc} 128 & & 32 & & 8 & & 2 \\ 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ 64 & & 16 & & 4 & & 1 & = & 255_{10} \end{array}$$