

Show your work. Not showing your work will have points deducted.

Convert the following binary numbers to Decimal. Circle or highlight your answers.

1.  $01101101_2 = \boxed{109_{10}}$

$$\begin{array}{r} 0 \\ 128 \\ \hline 64 \\ 32 \\ 16 \\ 8 \\ 4 \\ 2 \\ 1 \end{array} \begin{array}{l} 1 \\ 1 \\ 1 \\ 0 \\ 1 \\ 1 \\ 0 \\ 1 \end{array}$$

$$64 + 32 + 8 + 4 + 1 = 109_{10}$$

2.  $11000010_2 = \boxed{194_{10}}$

$$\begin{array}{r} 1 \\ 128 \\ \hline 64 \\ 32 \\ 16 \\ 8 \\ 4 \\ 2 \\ 1 \end{array} \begin{array}{l} 1 \\ 1 \\ 0 \\ 0 \\ 0 \\ 0 \\ 1 \\ 0 \end{array}$$

$$128 + 64 + 2 = 194_{10}$$

3.  $10101010_2 = \boxed{170_{10}}$

$$\begin{array}{r} 1 \\ 128 \\ \hline 64 \\ 32 \\ 16 \\ 8 \\ 4 \\ 2 \\ 1 \end{array} \begin{array}{l} 0 \\ 1 \\ 0 \\ 1 \\ 0 \\ 1 \\ 0 \\ 0 \end{array}$$

$$128 + 32 + 8 + 2 = 170_{10}$$

4.  $00010111_2 = \boxed{23_{10}}$

$$\begin{array}{r} 0 \\ 128 \\ \hline 64 \\ 32 \\ 16 \\ 8 \\ 4 \\ 2 \\ 1 \end{array} \begin{array}{l} 0 \\ 0 \\ 0 \\ 1 \\ 0 \\ 1 \\ 1 \\ 1 \end{array}$$

$$16 + 4 + 2 + 1 = 23$$

5.  $10000101_2 = \boxed{133_{10}}$

$$\begin{array}{r} 1 \\ 128 \\ \hline 64 \\ 32 \\ 16 \\ 8 \\ 4 \\ 2 \\ 1 \end{array} \begin{array}{l} 0 \\ 0 \\ 0 \\ 0 \\ 1 \\ 0 \\ 1 \\ 0 \end{array}$$

$$128 + 4 + 1 = 133_{10}$$