

Quiz #1 Solutions

#1 $153_{10} \rightarrow ?_8$

$$\begin{array}{r} 19 \\ 8 \sqrt{153} \\ \underline{8} \\ 73 \\ \underline{72} \\ 1 \end{array}$$

$$\begin{array}{r} 8 \overline{)153} \\ 8 \overline{)19} \rightarrow 1 \\ \underline{8} \\ 8 \overline{)2} \rightarrow 3 \\ \underline{0} \\ 0 \rightarrow 2 \end{array}$$

← read up

$153_{10} = 231_8$

#2 $153_8 \rightarrow ?_{10}$

$$1 \times 8^2 + 5 \times 8^1 + 3 \times 8^0$$

$$64 + 40 + 3 = 107_{10}$$

$\therefore 153_8 = 107_{10}$

#4 $\begin{array}{r} \text{"+"} \\ \boxed{0}1010 \\ 10101 \\ \hline \end{array}$ $\rightarrow 10 = N$

Step #1

+1

Step #2

$\boxed{1}0110 \rightarrow -10 = N'$

#8 $\begin{array}{r} \text{"-"} \\ \boxed{1}0111 \\ 01000 \\ \hline \end{array} = N', \text{ find } N$

Step #1

+1

Step #2

} same procedure

$\text{"+"} \boxed{0}1001 = 9 \therefore N \text{ was } \boxed{-9}$

Quiz #1 cont:

#6 $(.375)_{10} \rightarrow ?_2$

read down

$$\begin{array}{r} .375 \times 2 \\ 0.750 \times 2 \\ 1.500 \times 2 \\ 1.0 \text{ stop} \end{array}$$

$.375_{10} = .011_2$

#7 $169_{10} \rightarrow ?_{16}$

$$\begin{array}{r} 10 \\ 16 \sqrt{169} \\ \underline{16} \\ 09 \end{array}$$

$$\begin{array}{r} 16 \overline{)169} \\ 16 \overline{)10} \rightarrow 9 \\ \underline{0} \\ 0 \rightarrow 10 \text{ A} \end{array}$$

↑ read up

$\therefore 169_{10} \rightarrow A9_{16}$