Puzzle of the Week
Letter Substitutions – 3

Rules:

1. A letter represents a digit from 0 to 9, and has the same value throughout a single puzzle.
2. No number can start with the digit 0.
3. Within a puzzle, different letters must have different values.

$$\begin{array}{r} 8 \\ +\ A \\ \hline B\ 2 \end{array} \quad \Rightarrow \quad \begin{array}{r} 8 \\ +\ 4 \\ \hline 1\ 2 \end{array}$$

THE CHALLENGE: Find the value of A, B, C, and D in these puzzles.

$$\begin{array}{r} A \\ A \\ +\ 6 \\ \hline B\ B \end{array} \qquad \begin{array}{r} C \\ C \\ +\ 6 \\ \hline D \end{array}$$

EXPLORATION: Make some letter substitution puzzles for your friends to solve.

Puzzle of the Week

Letter Substitutions – 3 – Notes

THE CHALLENGE: **For A + A + 6 = BB**: The largest number B + B + 6 can be is 9 + 9 + 6 = 24, so B is either 1 or 2. A + A + 6 must be an even number, so B = 2. A + A + 6 = 22 means A + A = 16, so A = 8.

So, the answer is 8 + 8 + 6 = 22.

C + C + 6 = D: The only way that C + C + 6 can be less than 10 is if C is 1.

The answer is 1 + 1 + 6 = 8.