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.

```
    8              8
  + A     =>     + 4
  ─────          ─────
  B 2            1 2
```

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

```
      A                  C

      A                  C

    + 6                + 6
    ─────              ─────

    B B                  D
```

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

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.