Discrete Math Quiz: Number Bases

1. Write the decimal number \((63)_{10}\) in its binary (base-2) and its ternary (base-3) representations.

2. Write the decimal numbers \((1)_{10}, (2)_{10}, \ldots, (10)_{10}\) in their base-5 representation.

3. Which number is larger \((222)_4\) or \((101010)_2\)?

4. In the base-15 system: \(A = 10, B = 11, C = 12, D = 13,\) and \(E = 14\). What is the decimal value of the number \((ACE)_{15}\)?

5. What happens to a binary number when a 1 is appended at its end?

6. Which base-3 numbers are divided by 3?