



Vocabulary: Number Systems



Vocabulary

- Base-10 system – a system of numbers based on powers of 10.
 - For example, in base-10, the number 647 can be written in expanded form as the sum $(6 \cdot 10^2) + (4 \cdot 10^1) + (7 \cdot 10^0) = 600 + 40 + 7$.
- Binary system – a base-2 number system.
 - There are only two digits in a binary system, 0 and 1.
- Digit – any of the Arabic numerals, 0 through 9, used to build numbers in the base-10 system.
 - For example, the number 647 has three digits: 6, 4, and 7.
- Place value – the value of the position of a digit in a number.
 - In the base-10 system, the place values are powers of 10 (10^0 , 10^1 , 10^2) to represent ones, tens, and hundreds.
 - For example, in base-10, the number 647 means 6 hundreds, 4 tens, and 7 ones.
 - $647 = 600 + 40 + 7$
 - $647 = (6 \cdot 10^2) + (4 \cdot 10^1) + (7 \cdot 10^0)$

