**Definition** For b an integer greater than 1, w a positive integer, and n a nonnegative integer \_\_\_\_\_\_, the base b fixed-width w expansion of n is

$$(a_{w-1}\cdots a_1a_0)_{b,w}$$

where  $a_0, a_1, \ldots, a_{w-1}$  are nonnegative integers less than b and

$$n = \sum_{i=0}^{w-1} a_i b^i$$