



# $\Theta$ -notation

## *Math:*

$\Theta(g(n)) = \{ f(n) : \text{there exist positive constants } c_1, c_2, \text{ and } n_0 \text{ such that } 0 \leq c_1 g(n) \leq f(n) \leq c_2 g(n) \text{ for all } n \geq n_0 \}$

## *Engineering:*

- Drop low-order terms; ignore leading constants.
- Example:  $3n^3 + 90n^2 - 5n + 6046 = \Theta(n^3)$