Abstract. Let \((R, m)\) be a local ring and \(a\) be an ideal of \(R\). The inequalities

\[ \text{ht}(a) \leq \text{cd}(a, R) \leq \text{ara}(a) \leq l(a) \leq \mu(a) \]

are known. It is an interesting and long-standing problem to find out the cases giving equality. Thanks to the formal grade we give conditions in which the above inequalities become equalities.