

## Reference for a cubic with a double root?

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Following the standard derivation of the formula for the solutions of a cubic, it is not hard to see that  $ax^3 + bx^2 + cx + d = 0$  has a double root if and only if  $(2b^3 - 9a^2bc + 27a^2d)^2 = 4(b^2 - 3ac)^3$ . Does anyone know of a book where this fact is explicitly mentioned and proven?

Thanks in advance,

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