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in algebra a cubic equation in one variable is an equation of the form in which a is nonzero the solutions of this equation are called roots of the cubic function defined by the left hand side of the equation the cubic formula is the closed form solution for a cubic equation i e the roots of a cubic polynomial a general cubic equation is of the form z 3 a 2z 2 a 1z a 0 0 1 the coefficient a 3 of z 3 may be taken as 1 without loss of generality by dividing the entire equation through by a 3 x q q 2 r p 2 3 1 2 1 3 q q 2 r p 2 3 1 2 1 3 p where p b 3a q p 3 bc 3ad 6a 2 r c 3a but i do not recommend that you memorize these formulas aside from the fact that it s too complicated there are other reasons why we don t teach this formula to calculus students a cubic equation is an equation involving a cubic polynomial i e one of the form since or else the polynomial would be quadratic and not cubic this can without loss of generality be divided through by giving a closed form formula known as 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as the parent cube function is f x x 3 since a cubic function involves an odd degree polynomial it has at least one real root in geometry cubic units can be defined as the units used to measure volume the volume of a unit cube whose length width and height are 1 unit each is 1 cubic unit cubic units symbol can be given as unit 3 for example cubic centimeter can be represented as cm 3

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