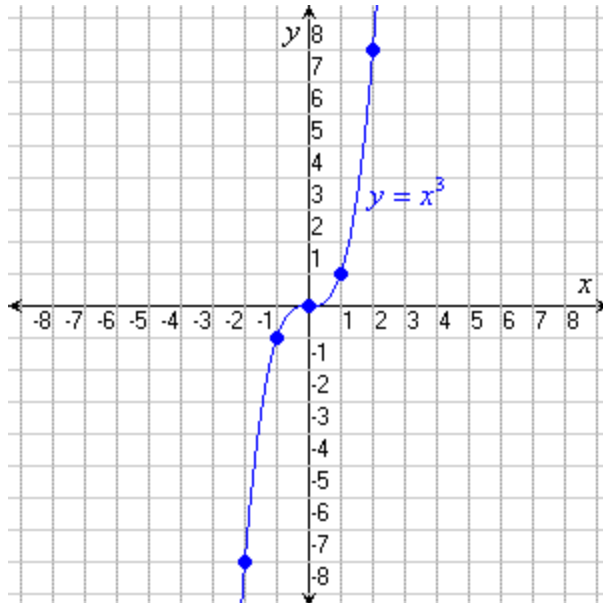


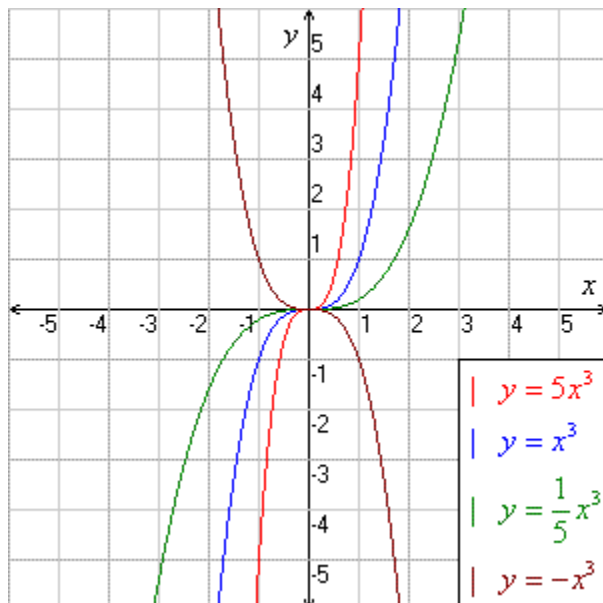
Cubic Functions

A cubic function is one in the form $f(x) = ax^3 + bx^2 + cx + d$.

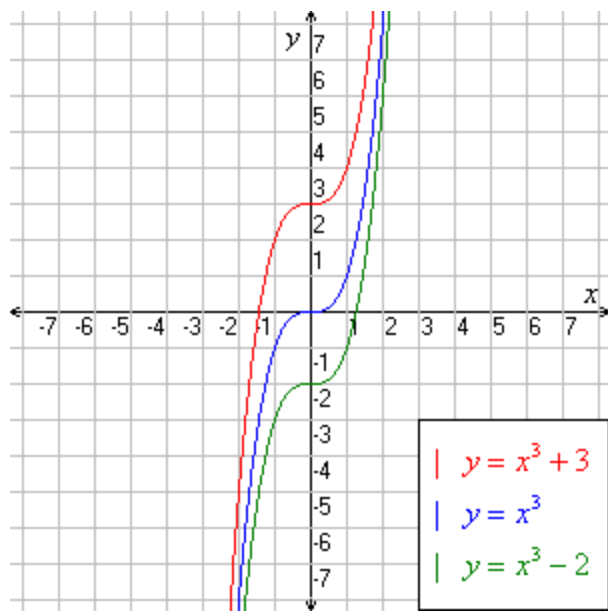
The "basic" cubic function, $f(x) = x^3$, is graphed below.



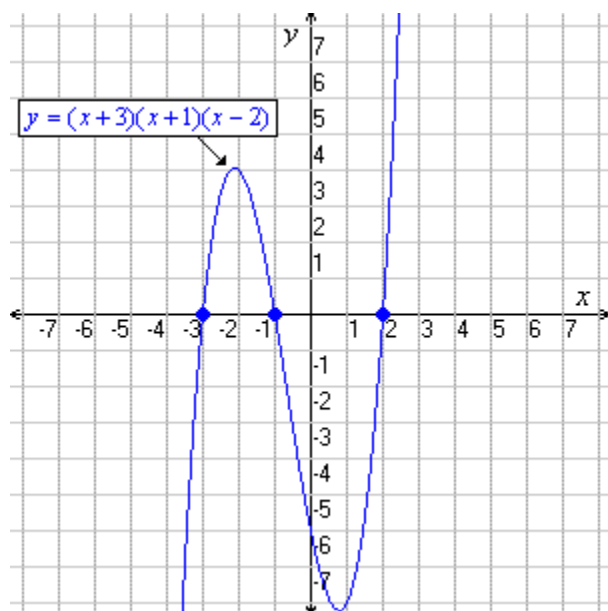
The function of the coefficient a in the general equation is to make the graph "wider" or "skinnier", or to reflect it (if negative):



The constant d in the equation is the **y-intercept** of the graph.



The effects of b and c on the graph are more complicated. However, if you can **factor** the right side of the equation, you can find one or more **x -intercepts**, and use these to sketch the graph. (Some cubics, however, cannot be factored.)



A cubic function may have one, two or three x -intercepts, corresponding to the real roots of the related cubic equation.