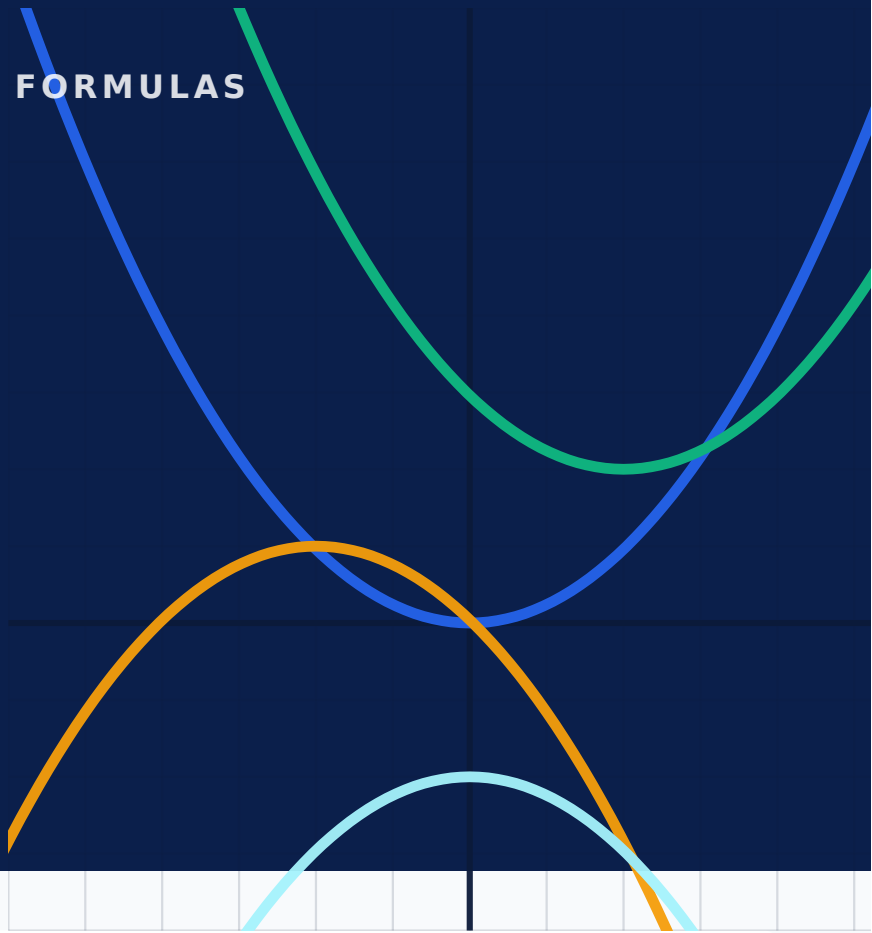


Quadratic Equations



$$ax^2 + bx + c = 0, a \neq 0 \Rightarrow x = \frac{-b \pm \sqrt{D}}{2a}, \quad D = b^2 - 4ac$$

Nature of roots

$D > 0$ two distinct real;

$D = 0$ two equal real ($x = -\frac{b}{2a}$); $D < 0$ no real roots