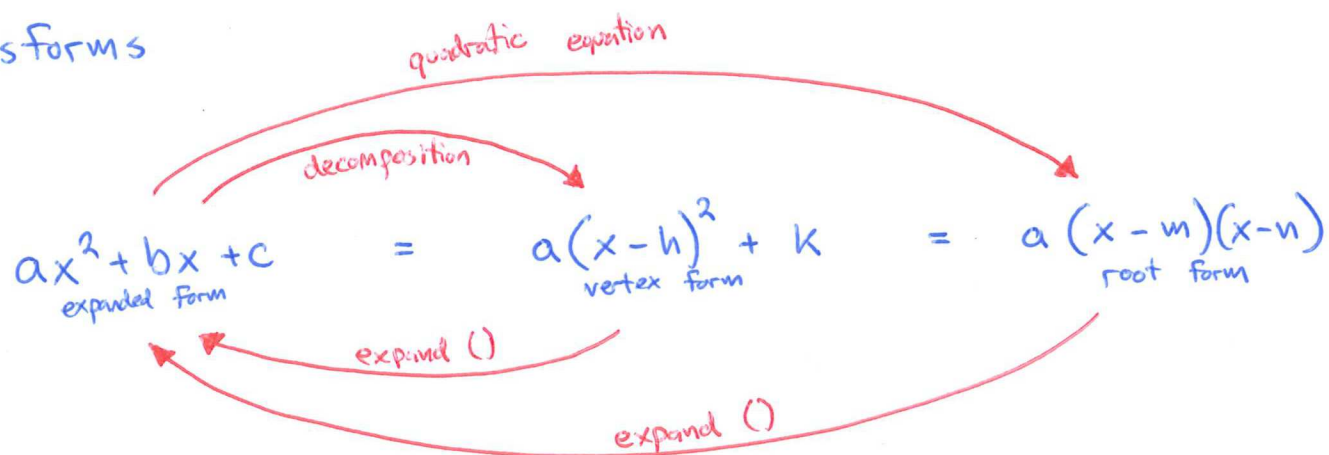


Transforms



Quadratic Equation

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Decomposition

$$\begin{aligned} ax^2 + bx + c &= a(x-h)^2 + k \\ &= ax^2 - 2ahx + ah^2 + k \end{aligned}$$

x^2 :

$$a\cancel{x^2} = a\cancel{x^2}$$

$$\Rightarrow a = a$$

x^1 :

$$b\cancel{x} = -2ah\cancel{x}$$

$$\Rightarrow h = -\frac{b}{2a}$$

x^0 :

$$c = ah^2 + k$$

$$\Rightarrow k = c - ah^2$$