When \(a \ne 0\), there are two solutions to \(ax^2 + bx + c = 0\) and they are $$x = {-b \pm \sqrt{b^2-4ac} \over 2a}.$$

$$\begin{aligned}
ax^2 + bx + c &= 0 \\
ax^2 + bx \quad &= -c \\
x^2 + \tfrac{b}{a}x \quad &= \tfrac{-c}{a} \quad \textcolor{red}{\text{Divide out leading coefficient.}} \\
x^2 + \tfrac{b}{a}x + \left(\tfrac{b}{2a}\right)^2 &= \tfrac{-c(4a)}{a(4a)} + \tfrac{b^2}{4a^2} \quad \textcolor{red}{\text{Complete the square.}} \\
\left(x + \tfrac{b}{2a}\right)\left(x + \tfrac{b}{2a}\right) &= \tfrac{b^2-4ac}{4a^2} \quad \textcolor{red}{\text{Discriminant revealed.}} \\
\left(x + \tfrac{b}{2a}\right)^2 &= \tfrac{b^2-4ac}{4a^2} \\
x + \tfrac{b}{2a} &= \sqrt{\tfrac{b^2-4ac}{4a^2}} \\
x &= \tfrac{-b}{2a} \pm \{C\} \sqrt{\tfrac{b^2-4ac}{4a^2}} \quad \textcolor{red}{\text{There's the vertex formula.}} \\
x &= \tfrac{-b \pm \{C\}\sqrt{b^2-4ac}}{2a}
\end{aligned}$$

$$\begin{pmatrix} 0 & 1 & 0 \\ 0 & 0 & 1 \\ 1 & 0 & 0 \end{pmatrix}$$

$$4.56 + 4.56 + \tfrac{4}{5} + 4 + 5i + 4.56e^{4.56i} + \pi + \mathbb{e} + \mathbb{e} + \mathbb{i} + \mathbb{i} + \gamma + \infty \quad 17 + 29i \in \mathbb{C}$$

$$\int_0^1 \frac{\mathrm{dx}}{(a+1)\sqrt{x}} = \pi \qquad \int_{\mathrm{E}} (\alpha f + \beta g)\, \mathrm{d}\,\mu = \alpha \int_{\mathrm{E}} f \; \mathrm{d}\,\mu + \beta \int_{\mathrm{E}} g \; \mathrm{d}\,\mu$$

$$A = \begin{pmatrix} 9 & 8 & 6 \\ 1 & 2 & 7 \\ 4 & 9 & 2 \\ 6 & 0 & 5 \end{pmatrix} \text{ or } A = \begin{bmatrix} 9 & 8 & 6 \\ 1 & 2 & 7 \\ 4 & 9 & 2 \\ 6 & 0 & 5 \end{bmatrix} \qquad \begin{bmatrix} a_{11} - \lambda & \cdots & a_{1\mathrm{n}} \\ \vdots & \ddots & \vdots \\ a_{\mathrm{n}1} & \cdots & a_{\mathrm{nn}} - \lambda \end{bmatrix} \begin{bmatrix} x_1 \\ \vdots \\ x_{\mathrm{n}} \end{bmatrix} = 0$$

$$\sqrt{x-3} + \sqrt{3x} + \sqrt{\frac{\sqrt{3x}}{x-3}} + i\frac{y}{\sqrt{2(r+x)}} \sum_{n=0}^{t} f(2n) + \sum_{n=0}^{t} f(2n+1) = \sum_{n=0}^{2t+1} f(n)$$

$$\sqrt{x^2} = |x| = \left\{ \begin{array}{llll} +\mathrm{x} & \text{, if} & x > & 0 \\ 0 & \text{, if} & x = & 0 \\ -\mathrm{x} & \text{, if} & x < & 0 \end{array} \right. \qquad H(j\omega) = \left\{ \begin{array}{llll} x^{-j\omega\sigma_0} & \text{for} & |\ \omega\ | < & \omega_\sigma \\ 0 & \text{for} & |\ \omega\ | & \omega_\sigma \end{array} \right.$$

$$x = \frac{-b \pm \sqrt{b^2-4ac}}{2a} \qquad f'(a) = \lim_{\mathrm{h} \to 0} \frac{f(a+h) - f(a)}{h}$$

$$1+\sum_{k=1}^{\infty}\frac{q^{k+k^2}}{(1-q)(1-q^2)\ldots(1-q^{\mathrm{k}})}=\prod_{j=0}^{\infty}\frac{1}{(1-q^{5j+2})(1-q^{5j+3})},\ \text{for}\ \ |q|<1$$