Typesetting Mathematics

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The area of a circle is given by $A = \pi r^2$. The quadratic formula states that the solutions to $ax^2 + bx + c = 0$ are

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

For example, if $a = 2$, $b = -5$ and $c = 3$, then we have

$$\begin{aligned} x &= \frac{-(-5) \pm \sqrt{(-5)^2 - 4(2)(3)}}{2(2)} \\ &= \frac{5 \pm \sqrt{25 - 24}}{4} \\ &= \frac{5 \pm 1}{4} \\ &= \frac{3}{2} \text{ or } 1. \end{aligned}$$

Here's a fun equation:

$$\oint_C \vec{F} \cdot d\vec{r} = \iint_S (\nabla \times \vec{F}) \cdot d\vec{S}.$$