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

$$ax^2 + bx + c = 0$$

$$x^2 + (b/a)x + (c/a) = 0$$

$$x^2 + (b/a)x = -c/a$$

$$x^2 + (b/a)x + (b/2a)^2 = -c/a + (b/2a)^2$$

$$[x + (b/2a)]^2 = -c/a + (b/2a)^2$$

$$x + (b/2a) = \pm\sqrt{-c/a + (b/2a)^2}$$

$$x = -(b/2a) \pm \sqrt{-c/a + (b/2a)^2}$$

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