Algebra 1 Name____________________

Derivation of the Quadratic Formula

General form of a quadratic equation: $ax^2 + bx + c = 0, \quad \forall\ a,b,c \in \mathbb{R}, \quad a \neq 0$

	Directions	Algebraic Representations
Step 1:	Divide the general form of a quadratic equation by *a*.	
Step 2:	Subtract the constant $\frac{c}{a}$ from both sides of the equation.	
Step 3:	Take half of the coefficient of the <u>linear term</u>, square it, and add it to both sides of the equation.	

The steps below are in mixed order. Your task is to arrange them in the correct order.

1) Cut out the 13 steps below.
2) Use the written directions on the first page to help arrange the steps in the correct order.
3) Paste them in the correct order in the 2nd column.

$\left(x+\frac{b}{2a}\right) = \pm\sqrt{\frac{b^2-4ac}{4a^2}}$
$x^2+\frac{b}{a}x+\left(\frac{b}{2a}\right)^2 = -\frac{c}{a}+\left(\frac{b}{2a}\right)^2$
$\sqrt{\left(x+\frac{b}{2a}\right)^2} = \pm\sqrt{\frac{b^2-4ac}{4a^2}}$
$x = \frac{-b\pm\sqrt{b^2-4ac}}{2a}$

Algebra 1 Name

Derivation of the Quadratic Formula

Algebraic Representations	Directions
$x^2 + \frac{b}{a}x +$	