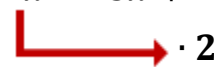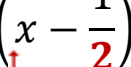# Factoring Trinomials of the form $Ax^2 + Bx + C$, where $A \neq 1$

Slide and Divide Method

Steps to Factoring $Ax^2 + Bx + C$	Example Factor: $2x^2 - 5x + 2$
1. Slide the leading coefficient over, under the constant, and multiply the two together. Re-write the trinomial without a leading coefficient.	$2x^2 - 5x + 2$ $\longrightarrow \cdot 2$ $x^2 - 5x + 4$
2. Follow the same rules as when $A = 1$, and factor this new trinomial.	$(x - 4)(x - 1)$
3. Since we multiplied the leading coefficient with the constant in Step 1, we must now DIVIDE it out from the constants of the factors from Step 2.	$\left(x - \dfrac{4}{2}\right)\left(x - \dfrac{1}{2}\right)$
4. Simplify the fractions. If the denominator doesn't cancel out, …	$(x - 2)\left(x - \dfrac{1}{2}\right)$
5. … slide it up to be the coefficient of the variable.	$(x - 2)(2x - 1)$

Here's Another Example…

Step	Factor: $15x^2 + x - 2$
1.	$x^2 + x - 30$
2.	$(x + 5)(x - 6)$
3.	$\left(x + \dfrac{5}{15}\right)\left(x - \dfrac{6}{15}\right)$
4.	$\left(x + \dfrac{1}{3}\right)\left(x - \dfrac{2}{5}\right)$
5.	$(3x + 1)(5x - 2)$