L5 Factoring More Difficult Trinomials

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Lesson 5 Factoring More Difficult Trinomials

Form: $ax^2 + bx + c, where\ a \neq 1$

PSF shortcut: ex) $2x^2 + 7x + 6$

➢ Product of (a)(c) $2(6)$	P (2 × 6 = 12)
➢ Sum of "b" 7	S (7)
➢ Factors of the product (a)(c)	F 4 and 3
➢ Take the GCF of each factor and "a"	GCF of 4 and 2 is **2** $\left(\frac{4}{2}\right)$
	GCF of 3 and 2 is **1** $\left(\frac{3}{1}\right)$

➢ Use GCFs as the coefficients of the first term

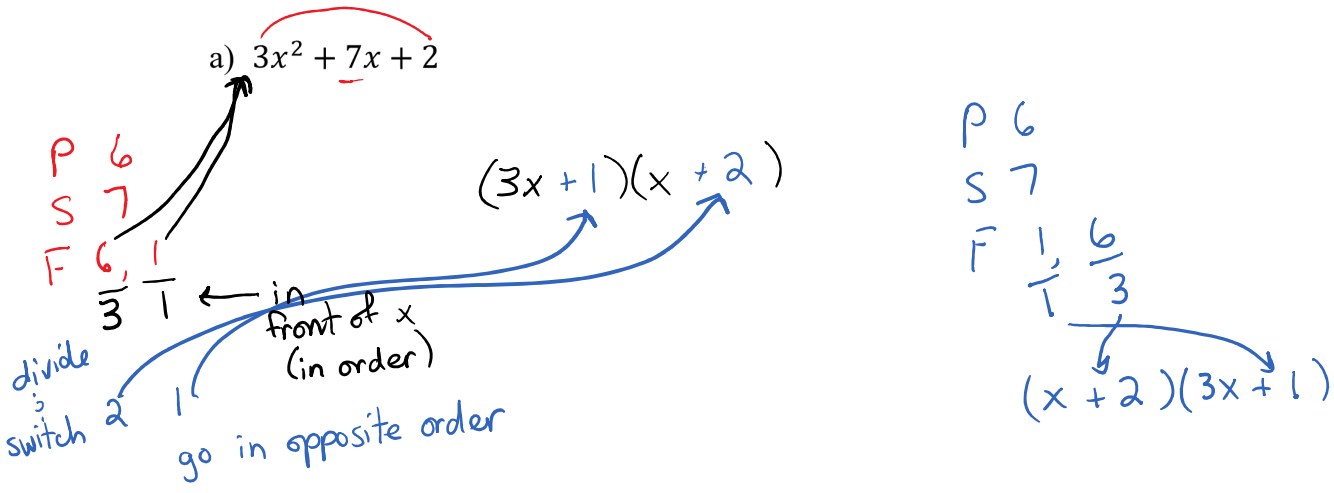
$$(2x+\ ?\ )(x+?\ )$$

➢ Divide each factor by the GCF to get the second variable in the **opposite** bracket

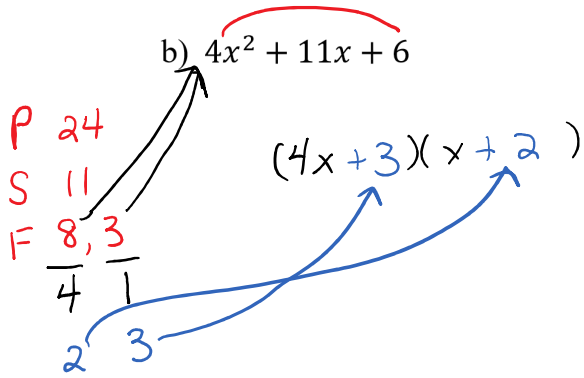
$\left(\frac{4}{2}\right) 4 \div 2 = 2$ and $\left(\frac{3}{1}\right) 3 \div 1 = 3$, therefore $(2x + 3)(x + 2)$

Example 1
Factor.

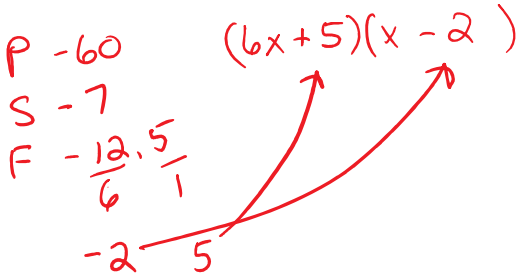
a) $3x^2 + 7x + 2$



b) $4x^2 + 11x + 6$



c) $6x^2 - 7x - 10$



d) $6x^2 - 11x - 35$

e) $6x^2 - 9x + 3$

f) $24h^2 - 20h - 24$

g) $2c^2 + 7cb + 6b^2$

h) $6x^2 - 21xy + 9y^2$