

**L4 – Factor  $ax^2 + bx + c$  where  $a \neq 1$** 

Unit 3

MPM2D

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Steps for factoring  $ax^2 + bx + c$  when  $a \neq 1$ 

- 1) Check for any common factors that can be factored out
- 2) Replace the middle term  $bx$  with two terms whose coefficients have a sum of  $b$  and a product of  $a \times c$
- 3) Group pairs of terms and remove a common factor from each pair
- 4) Remove the common binomial factor

**Example 1:** Factor each of the following

a)  $3x^2 - 5x - 2$

b)  $2x^2 + 11x + 12$

c)  $6x^2 + 13x - 5$

d)  $4x^2 - 5xy - 6y^2$

e)  $6x^2 + 14x + 4$

f)  $16x^2 + 26x - 12$