

Section 2.3 Factor Quadratic Expressions of the Form $ax^2 + bx + c$

- Factor each trinomial, using algebra tiles, if possible. If not possible, write *not factorable*.
 - $x^2 + 4x + 3$
 - $b^2 + 6b + 8$
 - $p^2 + 6p + 5$
 - $v^2 + 3v + 5$
 - $w^2 + 8w + 12$
- Factor each trinomial, if possible. If not possible, write *not factorable*.
 - $y^2 - 13y + 30$
 - $k^2 + 11k + 24$
 - $c^2 + 4c + 7$
 - $m^2 + 2m - 48$
 - $a^2 - 7a + 12$
- Factor each trinomial, if possible. If not possible, write *not factorable*. Look for common factors first.
 - $2y^2 - 18y - 20$
 - $3m^2 + 18m + 15$
 - $2q^2 + 4q + 16$
 - $5n^2 + 10n - 15$
 - $3d^2 - 3d - 36$
- Create a trinomial that can be factored into two binomials.
 - Factor the trinomial.
 - Illustrate how the polynomial is related to its factors using algebra tiles. Draw a diagram of your model.
- Create a trinomial that cannot be factored.
 - Use algebra tiles or algebraic reasoning to explain why it cannot be factored.
- Factor each trinomial, using algebra tiles, if possible. If not possible, write *not factorable*.
 - $2x^2 + 7x + 3$
 - $3k^2 + 10k + 3$
 - $2y^2 + 7y + 5$
 - $4j^2 + j + 3$
 - $4b^2 + 8b + 3$
- Factor each trinomial, if possible. If not possible, write *not factorable*.
 - $3e^2 + 10e + 8$
 - $2g^2 + 9g + 9$
 - $2k^2 - 9k - 5$
 - $9m^2 - 9m + 9$
 - $12p^2 - 23p - 2$
- Factor each trinomial, if possible. If not possible, write *not factorable*. Look for common factors first.
 - $2w^2 + 10w + 12$
 - $4w^2 + 20w + 24$
 - $3x^2 + 3x - 6$
 - $2m^2 + 4m - 30$
 - $6a^2 - 6a - 12$
- Create a trinomial that can be factored into 2 binomials for which $a \neq 1$, where a is the coefficient of the quadratic term.
 - Explain your method using words and diagrams.
- Which do you think are more common: trinomials that can be factored or trinomials that cannot be factored? Justify your answer with mathematical reasoning.