

**Do you know HOW?**

Write each polynomial in standard form.

- $2x - 3x^2 + 6 + 5x^3$
- $7 + 9x + 2x^2 + 8x^5$

Simplify. Write each answer in standard form.

- $(4x^2 + 9x + 1) + (2x^2 + 7x + 13)$
- $(8x^2 + 5x + 7) - (5x^2 + 8x - 6)$
- $(5x^4 + 7x + 2) - (3x^2 - 2x + 9)$
- $(-7x^3 + 4x - 6) + (6x^3 + 10x^2 + 3)$

Simplify each product. Write in standard form.

- $-p(8p^2 + 3p)$
- $(r + 8)(r + 6)$
- $(5w - 6)(2w + 7)$
- $(4s + 5)(7s^2 - 4s + 3)$
- $(q - 1)^2$
- $(3g - 5)(3g + 5)$

13. **Camping** A rectangular campground has length  $4x + 7$  and width  $3x - 2$ . What is the area of the campground?

Find the GCF of the terms of each polynomial.

- $16x^6 + 22x^2 + 30x^5$
- $7v^3 - 10v^2 + 9v^4$

Factor each expression.

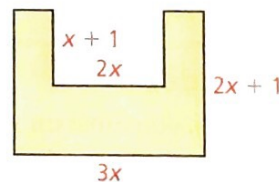
- $x^2 + 17x + 72$
- $4v^2 - 16v + 7$
- $n^2 - 16n + 64$
- $6t^2 - 54$
- $y^2 - 121$

Factor completely.

- $7h^4 - 4h^3 + 28h^2 - 16h$
- $15t^3 + 2t^2 - 45t - 6$
- $6n^4 + 15n^3 - 9n^2$
- $9v^4 + 12v^3 - 18v^2 - 24v$
25. **Art** The area of a square painting is  $81p^2 + 90p + 25$ . What is the side length of the painting?

**Do you UNDERSTAND?**

26. **Open-Ended** Write a trinomial with degree 5.
27. **Writing** Explain how to use the Distributive Property to multiply two binomials. Include an example.
28. **Geometry** What is an expression for the area of the figure? Write your answer as a polynomial in standard form.



29. **Open-Ended** What are three different values that complete the expression  $x^2 + \blacksquare x + 24$  so that you can factor it into the product of two binomials? Show each factorization.

Write the missing value in each perfect-square trinomial.

- $n^2 + \blacksquare n + 81$
- $16y^2 - 56y + \blacksquare$
- $\blacksquare p^2 + 30p + 25$
33. **Reasoning** The expression  $(x - 2)^2 - 9$  has the form  $a^2 - b^2$ .
  - Identify  $a$  and  $b$ .
  - Factor  $(x - 2)^2 - 9$ . Then simplify.