

9.4 Key Concepts 1 Simplifying Polynomial Expressions Worked Example

Example: Expand and simplify $4(2x^2 - x + 5) - 3x(2x - 1)$.

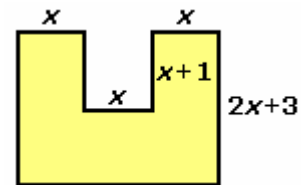
Solution: Multiply each term in each polynomial by the monomial in front. Be sure to follow the correct exponent rules.

$$\begin{aligned}4(2x^2 - x + 5) - 3x(2x - 1) &= 8x^2 - 4x + 20 - 6x^2 + 3x \\ &= 8x^2 - 6x^2 - 4x + 3x + 20 \\ &= 2x^2 - x + 20\end{aligned}$$

Practice:

1. Expand and simplify: $5(p^2 + 2p - 1) + 2p(3p - 4)$.

2. Develop an expression for the area of the figure. Simplify the expression.



Answers: 1. $11p^2 + 2p - 5$, 2. $5x^2 + 8x$