

Ch. 5.5 Simplify Algebraic Expressions

Objective: To simplify algebraic expressions.

$$-4x + 12 + x$$

Diagram illustrating the classification of terms in the expression $-4x + 12 + x$. Arrows point from $-4x$ and x to the label "like terms". An arrow points from 12 to the label "constant".

Ex. 1: Identify the terms, like terms, coefficients, and constants in the expression $6n - 7n - 4 + n$.

$$6n + (-7n) + (-4) + n$$

Terms: $6n, -7n, -4, n$

Like terms: $6n, -7n, n$

Coefficients: $6, -7, 1$

Constant: -4

Ex. 2 Write $7x - 2 - 7x + 6$ in simplest form.

$$\begin{aligned} 7x - 2 - 7x + 6 &= 7x + (-2) + (-7x) + 6 \\ &= 7x + (-7x) + (-2) + 6 \\ &= 0x + 4 \\ &= \boxed{4} \end{aligned}$$

Ex. 3 The cost of a jacket j after a 5% markup can be represented by the expression $j + 0.05j$. Simplify the expression. Then determine the total cost of the jacket after the markup, if the original price, \$35.

$$j + 0.05j = 1j + 0.05j \\ = 1.00j + 0.05j$$

$$= 1.05j \\ 1.05(35) = \boxed{\$36.75}$$