

Lesson 11-1

Example 1

Add: $5a^2b^2 + 7ab^2$ to $3a^2b^2 - 2ab^2$

Solution

$$\begin{aligned}(5a^2b^2 + 7ab^2) + (3a^2b^2 - 2ab^2) &= 5a^2b^2 + 7ab^2 + 3a^2b^2 - 2ab^2 \\ &= (5a^2b^2 + 3a^2b^2) + (7ab^2 - 2ab^2) \\ &= 8a^2b^2 + 5ab^2\end{aligned}$$

Example 2

PACKAGING The cost of the materials for the inner packaging of a new product is determined by the expression $8x^2y^2 + 6xy^2 + 4x$. The cost of the outer packaging materials is $2x^2y^2 + xy^2 + 2y$. Find the total cost of the packaging.

Solution

$$\begin{array}{r} 8x^2y^2 + 6xy^2 + 4x \\ 2x^2y^2 + xy^2 + 2y \\ \hline 10x^2y^2 + 7xy^2 + 4x + 2y \end{array}$$

Example 3

Subtract:

a. $3n^2 - 4n$ from $9n^2 + 6n$

b. $2t^2 + 4t - 6$ from $5t^2 - 5t - 2$

Solution

a. $(9n^2 + 6n) - (3n^2 - 4n) = 9n^2 + 6n + (-3n^2) + (4n)$
 $= 9n^2 + (-3n^2) + 6n + (4n)$
 $= 6n^2 + 10n$

b. $(5t^2 - 5t - 2) - (2t^2 + 4t - 6) = 5t^2 - 5t - 2 + (-2t^2) + (-4t) + (6)$
 $= 5t^2 + (-2t^2) + (-5t) + (-4t) + (-2) + 6$
 $= 3t^2 - 9t + 4$