9.3 Key Concepts 1 Multiplying a Polynomial by a Monomial Worked Example

Example: Expand $3x\left(2x^2 - xy + 5y^2\right)$.

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

$$3x\left(2x^2 - xy + 5y^2\right) = 6x^3 - 3x^2y + 15xy^2$$

Practice:

1. Expand $5\left(p + 2q\right)$.

2. Expand $5c\left(2c^2 - c + 3\right)$.

Answers: 1. $5p + 10q$ 2. $10c^3 - 5c^2 + 15c.$