CHAPTER 3 Polynomials
3.3 Discover the Exponent Laws
Multiplying Powers With the Same Base

Example:
Write each as a single power. Then, evaluate.

a) $3^2 \times 3 \times 3^5$

b) $b^4 \times b^3$, when $b = 2$

Solution:

a) $3^2 \times 3 \times 3^5 = 3^{2+1+5}$
$$= 3^8$$
$$= 6561$$

Hint: Don't forget to include the exponent from the middle term.

b) $b^4 \times b^3 = b^{4+3}$
$$= b^7$$
$$= 2^7$$
$$= 128$$

Practice: Write each of the following as a single power. Then, evaluate.

1. $4^2 \times 4^3 \times 4$

2. $t^3 \times t^6$, when $t = -1$

Answers:

1. 4096   **2.** -1