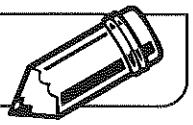
Name Date Time

LESSON 2·7

Using Multiplication Patterns



Find information about **Powers of 10** on page 5 of your *Student Reference Book*. Study the example below. Then try to use the same strategy to solve Problems 1 and 2.

$20 * 300 = (2 * 10) * (3 * 100)$	Write each factor in expanded form.
$= 2 * 10 * 3 * 100$	Remove the parentheses.
$= 2 * 3 * 10 * 100$	Use the Commutative Property so that the powers of 10 are together.
$= (2 * 3) * (10 * 100)$	Multiply the basic fact, and multiply the powers of 10.
$= 6 * 1{,}000$	Multiply the partial products.
$= 6{,}000$	

Solve the problems. Show your work.

1. $900 * 70 =$ _____

2. $500 * 6{,}000 =$ _____

3. Explain why you think counting zeros works in solving multiplication problems involving powers of 10.

_____

_____

_____

_____

4. Use what you know about counting zeros in multiplication to help you figure out the missing numbers below.

$4{,}200 *$ _____ $= 840{,}000$

_____ $* 40 = 2{,}000{,}000$

$250 *$ _____ $= 50{,}000{,}000$

5. On the back of this page, write two problems of your own that can be solved by counting zeros.