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PERIOD: \_\_\_\_\_ DATE: \_\_\_\_

# **Power of a Product Rule**

### Practice Worksheet A

1 Practice Problems

Simplify by using the Power of a Product Rule.

1) 
$$(3 \cdot 10)^2$$

6) 
$$(8^2 \cdot 3^7)^5$$

2) 
$$(9 \cdot 6)^7$$

7) 
$$(4^5 \cdot 2^4)^8$$

3) 
$$(4 \cdot 5)^{10}$$

8) 
$$(4 \cdot y^6)^3$$

4) 
$$(a \cdot b)^{13}$$

9) 
$$(x^5 \cdot y^6 \cdot z^7)^2$$

5) 
$$(a \cdot b)^{20}$$

10) 
$$(4^2 \cdot y^4 \cdot z^6)^5$$

NAME: Answer Key

PERIOD: \_\_\_\_\_ DATE: \_\_\_\_

## Power of a Product Rule

### Practice Worksheet A

1 Practice Problems

Simplify by using the Power of a Product Rule.

1) 
$$(3 \cdot 10)^2$$
 3<sup>2</sup> •10<sup>2</sup>

6) 
$$(8^2 \cdot 3^7)^5$$
 8<sup>10</sup>•3<sup>35</sup>

2) 
$$(9 \cdot 6)^7$$
 97 • 67

7) 
$$(4^5 \cdot 2^4)^8$$
 **440 • 2**32

3) 
$$(4.5)^{10}$$
 4<sup>10</sup>•5<sup>10</sup>

8) 
$$(4 \cdot y^6)^3$$
 4<sup>3</sup>• $y^{18}$ 

4) 
$$(a \cdot b)^{13}$$
 **a**<sup>13</sup> • **b**<sup>13</sup>

9) 
$$(x^5 \cdot y^6 \cdot z^7)^2 \mathbf{X^{10}} \bullet \mathbf{Y^{12}} \bullet \mathbf{Z^{14}}$$

5) 
$$(a \cdot b)^{20}$$
  $a^{20} \cdot b^{20}$ 

10 
$$(4^2 \cdot y^4 \cdot z^6)^5 \times 10 \cdot y^{20} \cdot z^{30}$$