

Name: \_\_\_\_\_ Period: \_\_\_\_\_

Multiplying Powers

Simplify

1)  $7^2 \cdot 7^3$

2)  $10^9 \cdot 10^5$

3)  $3^{10} \cdot 3^{10} \cdot 3^{10}$

4)  $5^{-2} \cdot 5^{-4} = 5^{-6} = \frac{1}{5^6}$

5)  $6^{11} \cdot 6^5 \cdot 6$

6)  $x^2 \cdot x^5 \cdot x^7$

7)  $x \cdot x^3 \cdot x$

8)  $(-2)^6 \cdot (-2)^3 \cdot (-2)^8$

9)  $\left(\frac{2}{3}\right)^7 \cdot \left(\frac{2}{3}\right)^4 \cdot \left(\frac{2}{3}\right)^{11}$

10)  $(-5)^2 \cdot (-5)^1 \cdot (-5)^9 \cdot (-5)^{12}$

11)  $\left(\frac{1}{8}\right)^5 \cdot \left(\frac{1}{8}\right)^4 = \left(\frac{1}{8}\right)^9$   
*Keep the base in ( )*

12)  $\left(-\frac{3}{4}\right)^2 \cdot \left(-\frac{3}{4}\right)^1 = \left(-\frac{3}{4}\right)^3$

13)  $\frac{2x^5 \cdot 7x^6}{14} = 14x^{11}$   
*Don't forget to always keep the base in ( )*

14)  $3x^2 \cdot 4x^4$

15)  $-5x^1 \cdot 7x^6 = -35x^7$

16)  $10x^5y^4 \cdot 10x^6y^2 = 100x^{11}y^6$

17)  $-2x^5y \cdot -3x^6 \cdot -5y^8 = -30x^{11}y^9$

18)  $4xy^1 \cdot 5x^1 \cdot 2y^4 = 40x^2y^5$