

Name \_\_\_\_\_

Math 8 Module 1 Lesson 2 Homework - Multiplying and Dividing Exponents

In general, if  $x$  is any number and  $m, n$  are positive integers, then

$$x^m \cdot x^n = x^{m+n}$$

In general, if  $x$  is nonzero and  $m, n$  are positive integers, then

$$\frac{x^m}{x^n} = x^{m-n}.$$

Simplify

1.  $a \cdot a^2$

7.  $\frac{s^5}{s^2}$

2.  $x^8 \cdot x^3$

8.  $\frac{x^8}{x^3}$

3.  $b^5 \cdot b^2$

9.  $\frac{\left(\frac{1}{2}\right)^9}{\left(\frac{1}{2}\right)^6}$

4.  $3c^2 \cdot 6c^7$

10.  $\frac{m^9n^7}{m^6n^6}$

5.  $2a^2b^3 \cdot 4a^5b^6$

11.  $\frac{2^5 \cdot 3^7}{2^3 \cdot 3^4}$

6.  $5ab^2c^3 \cdot 2a^3bc^2$

12.  $\frac{f^6}{f^6}$