NAME _____

Lesson 1.2 Equivalent Expressions with Exponents

To multiply powers with the same base, combine bases, add the exponents, then simplify. $2^2 \times 2^3 = 2^{2+3} = 2^5 = 32$

To divide powers with the same base, combine bases, subtract the exponents, then simplify. $3^5 \div 3^2 = 3^{5-2} = 3^3 = 27$

Find the value of each expression.

	a	b	c
1.	$7^2 =$ _____	$8^3 =$ _____	$4^3 =$ _____
2.	$10^2 =$ _____	$9^4 =$ _____	$11^5 =$ _____
3.	$17^3 =$ _____	$5^6 =$ _____	$6^4 =$ _____
4.	$21^3 =$ _____	$16^4 =$ _____	$12^5 =$ _____

Rewrite each expression as one base and one exponent. Then, find the value.

5.	$8^2 \times 8^3 =$ 8^5; 32768	$3^3 \times 3^3 =$ _____	$2^2 \times 2^2 =$ _____
6.	$7^4 \div 7^2 =$ _____	$9^5 \div 9^3 =$ _____	$16^4 \div 16^2 =$ _____
7.	$6^4 \times 6^1 =$ _____	$4^4 \times 4^2 =$ _____	$3^2 \times 3^2 =$ _____
8.	$10^6 \div 10^4 =$ _____	$8^3 \div 8^2 =$ _____	$7^6 \div 7^3 =$ _____
9.	$5^3 \times 5^2 =$ _____	$10^3 \times 10^4 =$ _____	$15^2 \times 15^1 =$ _____
10.	$2^8 \div 2^3 =$ _____	$3^9 \div 3^7 =$ _____	$6^6 \div 6^3 =$ _____