Name : _____

Integers

L1S2

Simplify.

1) $16 \div 2 =$ _____

2) $(-18) - (-8) =$ _____

3) $7 + (-14) =$ _____

4) $(-1) \times 9 =$ _____

5) $8 \times 4 =$ _____

6) $18 \div (-6) =$ _____

7) $(-15) - 12 =$ _____

8) $(-19) + (-4) =$ _____

9) $(-2) \times (-9) =$ _____

10) $7 - 3 =$ _____

11) $(-20) \div (-10) =$ _____

12) $10 \times (-3) =$ _____

13) $(-17) + 17 =$ _____

14) $(-12) \div 6 =$ _____

15) $19 - (-7) =$ _____

16) $13 + 20 =$ _____

Name :_____

Converting Fractions to Decimals

A) Convert the following fractions to decimals.

1) $\dfrac{13}{100}$ = _____

2) $\dfrac{4}{10}$ = _____

3) $\dfrac{6}{10}$ = _____

4) $\dfrac{90}{100}$ = _____

5) $\dfrac{68}{100}$ = _____

6) $\dfrac{32}{10}$ = _____

7) $\dfrac{49}{10}$ = _____

8) $\dfrac{7}{100}$ = _____

B) Match each fraction with its equivalent decimal.

1) $\dfrac{1}{100}$ •   • 2.2

2) $\dfrac{22}{10}$ •   • 0.1

3) $\dfrac{10}{100}$ •   • 0.01

C) Which of the following is equivalent to $\dfrac{5}{10}$?

a) 0.5   b) 0.05   c) 0.1   d) 0.55

Properties of Exponents

NAME	SUMMARY	PROPERTY	EXAMPLE
Product of Powers	When multiplying powers with the same base, add the exponents.	$x^n \cdot x^m = x^{n+m}$	$5^3 \cdot 5^4 = 5^7$
Quotient of Powers	When dividing powers with the same base, subtract the exponents.	$\dfrac{x^n}{x^m} = x^{n-m}$	$\dfrac{2^8}{2^2} = 2^6$
Power of a Power	To find a power of a power, multiply the exponents.	$(x^n)^m = x^{n \cdot m}$	$(3^5)^2 = 3^{10}$
Power of a Product	To find the power of a product, multiply the powers of the individual factors.	$(x \cdot y)^n = x^n \cdot y^n$	$(6 \cdot 2)^4 = 6^4 \cdot 2^4$
Power of a Quotient	To find the power of a quotient, divide the powers of the numerator and denominator.	$\left(\dfrac{x}{y}\right)^n = \dfrac{x^n}{y^n}$	$\left(\dfrac{5}{9}\right)^3 = \dfrac{5^3}{9^3}$
Zero Exponent	Any nonzero base raised to the zero power equals 1.	$x^0 = 1$	$8^0 = 1$
Negative Exponent	If the base has a negative exponent, rewrite the expression as a fraction with 1 in the numerator and a positive exponent in the denominator.	$x^{-n} = \dfrac{1}{x^n}$	$4^{-3} = \dfrac{1}{4^3}$

Name _____ Date _____

Properties of Exponents Practice

Simplify each expression using the properties of exponents. Write the answer as a single term with a positive exponent.

$4^6 \cdot 4^3 =$ _____	$3^{-2} =$ _____	$\dfrac{6^{14}}{6^{12}} =$ _____	$(5^3)^5 =$ _____
$2^{-8} =$ _____	$\dfrac{12^9}{12^5} =$ _____	$8^3 \cdot 8^2 =$ _____	$(17^4)^6 =$ _____
$(13^2)^{11} =$ _____	$3^7 \cdot 3^8 =$ _____	$14^{-15} =$ _____	$\dfrac{9^{23}}{9^{16}} =$ _____
$7^9 \cdot 7^{12} =$ _____	$(4^6)^5 =$ _____	$\dfrac{10^{25}}{10^{18}} =$ _____	$48^{-6} =$ _____
$\dfrac{2^{31}}{2^{17}} =$ _____	$18^{-13} =$ _____	$(6^{12})^7 =$ _____	$5^{14} \cdot 5^{18} =$ _____

Challenge! Simplify each expression using the properties of exponents. Write the answer as a single term with a positive exponent.

$\dfrac{9^1}{9^4} =$ _____	$\dfrac{25^5}{25^3} \cdot 25^6 =$ _____	$\dfrac{(7^3)^4}{7^5} =$ _____
$(4^{-3})^2 =$ _____	$5^8 \cdot (5^5)^2 =$ _____	$\dfrac{6^{12} \cdot 6^{15}}{6^4} =$ _____