

Name: _____

Date: _____

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Math 306

Exponents

1) Simplify the following using the laws of exponents

a) $a^4 \cdot a^3 =$

b) $p^3 \div p^2 =$

c) $3x \cdot 7y =$

d) $q^7 \div q^9 =$

e) $4x^2 \cdot 3x^7 =$

f) $3u \div u^8 =$

g) $5x^2 \div x^3 =$

h) $9y^7 \div 3y^3 =$

i) $3y \cdot 3y^3 =$

j) $10x^5 \div 2 =$

k) $4x^2 \cdot 1x =$

l) $7z^2 \div z^3 =$

m) $x \cdot x^7 =$

n) $r^{18} \div r =$

o) $n^2 \div n^3 =$

p) $s^{10} \cdot s^8 =$

q) $\frac{15z^4}{5z^3} =$

r) $\frac{4x^2}{2x} =$

2) True or False

a) $7^5 - 7^3 = 7^2$

b) $x^6 \div x^2 = x^3$

c) $9^{-6} \div 9^{-3} = 9^{-3}$

d) $2^7 \div 2^9 = 2^{-2}$

3) Find the missing term.

a) $8^5 \times \underline{\hspace{2cm}} = 8^3$

b) $7^8 \div \underline{\hspace{2cm}} = 7^4$

c) $10^4 \div 10^{-3} = \underline{\hspace{2cm}}$

d) $10^{-8} \times \underline{\hspace{2cm}} = 10^{12}$

e) $\underline{\hspace{2cm}} \times 7^3 = 7^4$

f) $\underline{\hspace{2cm}} \times 2^7 = 2^3$

4) Simplify using the laws of exponents (positive exponents only)

a) $\frac{14y^2z^5}{7yz^6} =$

b) $\frac{16x^3y^2z^{16}}{8y^5z^3} =$

c) $\frac{9y}{18y^3} =$

d) $\frac{16x^2y}{4xz} =$