Name : _____

T2S3

Exponents - Quotient Rule

A) Use the quotient rule to rewrite each expression as a single exponent.

1) $\dfrac{(-2.4)^{9}}{(-2.4)^{-4}}$

2) $\dfrac{v^{-10}}{v^{-15}}$

3) $\left(\dfrac{4}{c}\right)^{17} \div \left(\dfrac{4}{c}\right)^{5}$

_____ _____ _____

4) $\dfrac{y}{y^{7}}$

5) $\left(-\dfrac{s}{t}\right)^{-6} \div \left(-\dfrac{s}{t}\right)^{4}$

6) $\dfrac{(-p)^{-12}}{(-p)^{-3}}$

_____ _____

B) Find the value of x.

1) $(-x)^{-14} \div \left(-\dfrac{n}{2}\right)^{2} = \left(-\dfrac{n}{2}\right)$

$\dfrac{(-t)^{x}}{(-t)^{4}} = (-t)^{-9}$

x = _____

x = _____

4) $\dfrac{(-r)^{0}}{(-r)^{-x}} = (-r)^{-11}$

$\dfrac{(3.3)^{-x}}{3.3} = (3.3)^{-19}$

x = _____

x = _____

C) 1) Find the value of x, if $\left(\dfrac{b}{a}\right)^{x} \div \left(\dfrac{b}{a}\right)^{-2} = \left(\dfrac{b}{a}\right)^{17}$.

i) −15 ii) 15 iii) 19 iv) −19

2) Which of the following equals $\dfrac{(-u)^{-11}}{(-u)^{-9}}$?

i) $(-u)^{-2}$ ii) $(-u)^{-20}$ iii) $(-u)^{2}$ iv) $(-u)^{20}$