Name : _____

Exponents - Quotient Rule

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

1) $\dfrac{h^4}{h^7}$

2) $\left(-\dfrac{u}{v}\right)^{-8} \div \left(-\dfrac{u}{v}\right)^{5}$

3) $\dfrac{14^{-3}}{14^{0}}$

_____

4) $\dfrac{(-s)^{11}}{(-s)^{-6}}$

5) $\dfrac{(-1.1)^{-2}}{(-1.1)^{-7}}$

6) $\dfrac{k^{16}}{k^{14}}$

_____

B) Find the value of x.

1) $\dfrac{(-9)^x}{(-9)^6} = (-9)^{-8}$

$\dfrac{(8.5)^{-13}}{(8.5)^{-x}} = (8.5)^{-20}$

PREVIEW

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$x =$ _____

$x =$ _____

4) $\left(\dfrac{p}{5}\right)^{15} \div \left(\dfrac{p}{5}\right)^{-x} = \left(\dfrac{p}{5}\right)^{19}$

$\dfrac{c^7}{c^{-x}} = c^{-4}$

$x =$ _____

$x =$ _____

C) 1) Which of the following equal $\left(-\dfrac{2}{r}\right)^{-2} \div \left(-\dfrac{2}{r}\right)^{-5}$?

i) $\left(-\dfrac{2}{r}\right)^{3}$ ii) $\left(-\dfrac{2}{r}\right)^{-7}$ iii) $\left(-\dfrac{2}{r}\right)^{-3}$ iv) $\left(-\dfrac{2}{r}\right)^{7}$

2) Find the value of x, if $\dfrac{(-q)^{17}}{(-q)^x} = (-q)^{20}$.

i) 3   ii) 37   iii) −3   iv) −37