Name : _____

Exponents - Quotient Rule

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

1) $\dfrac{(9.3)^8}{(9.3)^3}$

2) $\left(\dfrac{5}{7}\right)^{-9} \div \left(\dfrac{5}{7}\right)^4$

3) $\dfrac{(-18)^{-12}}{(-18)^{-6}}$

_____   _____   _____

4) $\dfrac{(-4)^{-6}}{(-4)^{13}}$

5) $\dfrac{11^{17}}{11^{15}}$

6) $\left(-\dfrac{3}{4}\right)^7 \div \left(-\dfrac{3}{4}\right)^{-11}$

_____   _____   _____

B) Find the value of x.

1) $\dfrac{(-13)^{-4}}{(-13)^x} = (-13)^{-20}$

$\dfrac{9^{-x}}{9^7} = 9^{-19}$

PREVIEW

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$x =$ _____

$x =$ _____

4) $\left(\dfrac{1}{6}\right)^{-x} \div \left(\dfrac{1}{6}\right)^5 = \left(\dfrac{1}{6}\right)^{15}$

$\dfrac{(4.7)^x}{(4.7)^{13}} = (4.7)^{-13}$

$x =$ _____

$x =$ _____

C) 1) Which of the following equals $\dfrac{(-3.5)^{-8}}{(-3.5)^{-7}}$?

i) $(-3.5)^{-1}$ ii) $(-7)^{-15}$ iii) -3.5 iv) $(-7)^{-1}$

2) Find the value of x, if $\left(-\dfrac{7}{2}\right)^{14} \div x^{-4} = \left(-\dfrac{7}{2}\right)^{18}$.

i) 7 ii) $\dfrac{7}{2}$ iii) $-\dfrac{7}{2}$ iv) -7