Name : _____

Exponents - Power of a Power Rule

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

1) $\left(\left(\dfrac{p}{q}\right)^{-3}\right)^{-10}$

2) $((-7)^{19})^{-2}$

3) $\left(\left(-\dfrac{3}{z}\right)^{-7}\right)^{11}$

_____

_____

_____

4) $((-w)^2)^{-13}$

5) $(v^{-12})^5$

6) $((6.1)^9)^4$

_____

B) Find the value of x.

1) $(x^9)^3 = (-u)^{27}$

$\left(\left(-\dfrac{c}{d}\right)^{-14}\right)^{-x} = \left(-\dfrac{c}{d}\right)^{98}$

PREVIEW

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$x =$ _____

$x =$ _____

4) $((3.7)^x)^4 = (3.7)^{60}$

$\left(\left(\dfrac{a}{3}\right)^x\right)^{-9} = \left(\dfrac{a}{3}\right)^{-27}$

$x =$ _____

$x =$ _____

C) 1) Find the value of x, if $(b^7)^x = 1$.

i) 0   ii) 7   iii) 1   iv) 8

2) Which of the following equals $\left(\left(\dfrac{s}{t}\right)^{-6}\right)^{-16}$?

i) $\left(\dfrac{s}{t}\right)^{-22}$ ii) $\left(\dfrac{s}{t}\right)^{96}$ iii) $\left(\dfrac{s}{t}\right)^{-96}$ iv) $\left(\dfrac{s}{t}\right)^{-10}$