

Name : _____

T2S2

Exponents - Power of a Power Rule

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

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

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

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

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

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

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

B) Find the value of x .

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

$x =$ _____

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

$x =$ _____

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

$x =$ _____

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

$x =$ _____

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 $\left(\left(\frac{s}{t}\right)^{-6}\right)^{-16}$?

i) $\left(\frac{s}{t}\right)^{-22}$

ii) $\left(\frac{s}{t}\right)^{96}$

iii) $\left(\frac{s}{t}\right)^{-96}$

iv) $\left(\frac{s}{t}\right)^{-10}$

Exponents - Power of a Power Rule

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

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

2) $\left((-7)^{19}\right)^{-2}$

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

$\left(\frac{p}{q}\right)^{30}$

$(-7)^{-38}$

$\left(-\frac{3}{z}\right)^{-77}$

4) $\left((-w)^2\right)^{-13}$

5) $\left(v^{-12}\right)^5$

6) $\left((6.1)^9\right)^4$

$(-w)^{-26}$

$(6.1)^{36}$

B) Find the value of x .

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

$x = -u$

4) $\left((3.7)^x\right)^4 = (3.7)^{60}$

$x = 15$

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

$x = 7$

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

$x = 3$

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 $\left(\left(\frac{s}{t}\right)^{-6}\right)^{-16}$?

i) $\left(\frac{s}{t}\right)^{-22}$

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