

Exponents - Power of a Power Rule

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

1) $((-13)^{11})^6$

2) $((4.6)^{-7})^{-5}$

3) $(7^9)^{-4}$

4) $(3^{-3})^2$

5) $\left(\left(-\frac{5}{6}\right)^4\right)^{-7}$

6) $((-18)^{-15})^{-3}$

B) Find the value of x .

1) $((-5.8)^4)^{-x} = (-5.8)^{16}$

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$9^6)^{-x} = 9^{54}$

$x =$ _____

$x =$ _____

4) $\left(\left(\frac{8}{7}\right)^x\right)^{-5} = \left(\frac{8}{7}\right)^{30}$

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$x^{-7})^{-8} = (-8)^{56}$

$x =$ _____

$x =$ _____

C) 1) Find the value of x , if $\left(\left(-\frac{1}{9}\right)^2\right)^x = \left(-\frac{1}{9}\right)^{-26}$.

i) -52

ii) -13

iii) 13

iv) 10

2) Which of the following equals $((-4.3)^8)^2$?

i) $(-4.3)^{-16}$

ii) $(-4.3)^6$

iii) $(-4.3)^{10}$

iv) $(-4.3)^{16}$