

Name : _____

T2S1

Exponents - Power of a Power Rule

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

1) $(15^5)^9$

2) $((-d)^{-6})^6$

3) $(s^{-18})^{-4}$

4) $\left(\left(\frac{2}{k}\right)^3\right)^{-7}$

5) $((-1.8)^{-11})^{-5}$

6) $\left(\left(-\frac{a}{b}\right)^{14}\right)^2$

B) Find the value of x .

1) $((2.5)^{-13})^x = (2.5)^{-39}$

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$(-r)^{-x})^{-8} = (-r)^{48}$

$x =$ _____

$r =$ _____

4) $\left(\left(-\frac{v}{7}\right)^5\right)^{-x} = \left(-\frac{v}{7}\right)^{35}$

$x^7)^3 = 9^{21}$

$x =$ _____

$r =$ _____

C) 1) Which of the following equals $\left(\left(-\frac{4}{9}\right)^2\right)^{-15}$?

i) $\left(-\frac{4}{9}\right)^{30}$

ii) $\left(-\frac{4}{9}\right)^{-13}$

iii) $\left(-\frac{4}{9}\right)^{-30}$

iv) $\left(-\frac{4}{9}\right)^{-17}$

2) Find the value of x , if $((-y)^9)^{-x} = (-y)^{-72}$.

i) 8

ii) -7

iii) 6

iv) 9

PREVIEW

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