

## Exponents - Power of a Quotient Rule

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

1)  $\left(-\frac{1}{6}\right)^{-15} \div \left(\frac{4}{9}\right)^{-15}$

2)  $\frac{(-12)^{-2}}{(-18)^{-2}}$

3)  $\frac{(2.6)^{11}}{(1.3)^{11}}$

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4)  $\frac{14^9}{(-2)^9}$

5)  $15^{-18} \div \left(\frac{5}{3}\right)^{-18}$

6)  $\frac{(-4.8)^{-1}}{12^{-1}}$

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B) Find the value of  $x$ .

1)  $\frac{(-3)^{16}}{(-x)^{16}} = \left(\frac{1}{4}\right)^{16}$

$x =$  \_\_\_\_\_

4)  $x^{14} \div \left(-\frac{4}{9}\right)^{14} = \left(-\frac{3}{4}\right)^{14}$

$x =$  \_\_\_\_\_

# PREVIEW

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$\frac{(6.8)^{-11}}{x^{-11}} = (-1.7)^{-11}$

$x =$  \_\_\_\_\_

$-18)^5 \div \left(\frac{9}{5}\right)^{-x} = -10^5$

$x =$  \_\_\_\_\_

C) 1) Which of the following equals  $\frac{(9.1)^{17}}{(-6.5)^{17}}$  ?

i)  $(-2.4)^{17}$

ii)  $(-1.4)^{17}$

iii)  $(-3.5)^{17}$

iv)  $(-9)^{30}$

2) Find the value of  $x$ , if  $\frac{x^{-12}}{3^{-12}} = 2^{-12}$ .

i) -5

ii) -6

iii) 5

iv) 6