

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

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

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

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

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

Gain complete access to the largest collection of worksheets in all subjects!

Members, please
log in to
download this
worksheet.

Not a member?
Please sign up to
gain complete
access.

www.mathworksheets4kids.com

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

$x =$ _____

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

$x =$ _____

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

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

$\left(-\frac{3}{8}\right)^{-15}$

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

2^{11}

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

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

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

$(-7)^9$

$(-0.4)^{-1}$

B) Find the value of x .

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

$x = \underline{\quad 12 \quad}$

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

$x = \underline{\quad \frac{1}{3} \quad}$

PREVIEW

Gain complete access to the largest collection of worksheets in all subjects!

Members, please log in to download this worksheet.

Not a member? Please sign up to gain complete access.

www.mathworksheets4kids.com

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

$x = \underline{\quad -4 \quad}$

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

$x = \underline{\quad -5 \quad}$

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