

Exponents - Power of a Quotient Rule

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

1) $\frac{(-20)^{-4}}{2^{-4}}$

2) $\frac{(-p)^5}{(-q)^5}$

3) $\left(\frac{r}{9s}\right)^{12} \div \left(-\frac{r}{3t}\right)^{12}$

4) $\left(-\frac{4b}{c}\right)^{-13} \div b^{-13}$

5) $\frac{(-6.6)^3}{(-1.1)^3}$

6) $(16u)^{-2} \div \left(\frac{2u}{5v}\right)^{-2}$

B) Find the value of x .

1) $\frac{12^{11}}{(-3)^x} = (-4)^{11}$

$x =$ _____

4) $\left(-\frac{7d}{3c}\right)^{-9} \div x^{-9} = \left(-\frac{1}{6c}\right)$

$x =$ _____

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

$-x)^{15} \div \left(\frac{n}{w}\right)^{15} = \left(\frac{m}{n}\right)^{15}$

$x =$ _____

$\frac{(8.4)^{14}}{x^{14}} = 7^{14}$

$x =$ _____

C) 1) Find the value of x , if $x^{-8} \div \left(\frac{5a}{3b}\right)^{-8} = (6b)^{-8}$.

i) $-10a$

ii) $5a$

iii) $10a$

iv) $-5a$

2) Which of the following equals $\frac{(-18y)^{20}}{(9z)^{20}}$?

i) $\left(-\frac{2y}{z}\right)^{20}$

ii) $\left(\frac{y}{2z}\right)^{20}$

iii) $\left(-\frac{2z}{y}\right)^{20}$

iv) $\left(\frac{z}{2y}\right)^{20}$