

## Exponents - Quotient Rule

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

1)  $\frac{(-2.4)^9}{(-2.4)^{-4}}$

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2)  $\frac{v^{-10}}{v^{-15}}$

\_\_\_\_\_

3)  $\left(\frac{4}{c}\right)^{17} \div \left(\frac{4}{c}\right)^5$

\_\_\_\_\_

4)  $\frac{y}{y^7}$

\_\_\_\_\_

5)  $\left(-\frac{s}{t}\right)^{-6} \div \left(-\frac{s}{t}\right)^4$

\_\_\_\_\_

6)  $\frac{(-p)^{-12}}{(-p)^{-3}}$

\_\_\_\_\_

# PREVIEW

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B) Find the value of  $x$ .

1)  $(-x)^{-14} \div \left(-\frac{n}{2}\right)^2 = \left(-\frac{n}{2}\right)$

$\frac{(-t)^x}{(-t)^4} = (-t)^{-9}$

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

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

4)  $\frac{(-r)^0}{(-r)^{-x}} = (-r)^{-11}$

$\frac{(3.3)^{-x}}{3.3} = (3.3)^{-19}$

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

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

C) 1) Find the value of  $x$ , if  $\left(\frac{b}{a}\right)^x \div \left(\frac{b}{a}\right)^{-2} = \left(\frac{b}{a}\right)^{17}$ .

i) -15

ii) 15

iii) 19

iv) -19

2) Which of the following equals  $\frac{(-u)^{-11}}{(-u)^{-9}}$ ?

i)  $(-u)^{-2}$

ii)  $(-u)^{-20}$

iii)  $(-u)^2$

iv)  $(-u)^{20}$