

## Exponents - Quotient Rule

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

1)  $\frac{h^4}{h^7}$

2)  $\left(-\frac{u}{v}\right)^8 \div \left(-\frac{u}{v}\right)^5$

3)  $\frac{14^{-3}}{14^0}$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4)  $\frac{(-s)^{11}}{(-s)^{-6}}$

5)  $\frac{(-1.1)^{-2}}{(-1.1)^{-7}}$

6)  $\frac{k^{16}}{k^{14}}$

\_\_\_\_\_

\_\_\_\_\_

B) Find the value of  $x$ .

1)  $\frac{(-9)^x}{(-9)^6} = (-9)^{-8}$

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

4)  $\left(\frac{p}{5}\right)^{15} \div \left(\frac{p}{5}\right)^{-x} = \left(\frac{p}{5}\right)^{19}$

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

# PREVIEW

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$\frac{(8.5)^{-13}}{(8.5)^{-x}} = (8.5)^{-20}$

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

$\frac{c^7}{c^{-x}} = c^{-4}$

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

C) 1) Which of the following equal  $\left(-\frac{2}{r}\right)^{-2} \div \left(-\frac{2}{r}\right)^{-5}$  ?

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

ii)  $\left(-\frac{2}{r}\right)^{-7}$

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

iv)  $\left(-\frac{2}{r}\right)^7$

2) Find the value of  $x$ , if  $\frac{(-q)^{17}}{(-q)^x} = (-q)^{20}$ .

i) 3

ii) 37

iii) -3

iv) -37

**Exponents - Quotient Rule**

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

1)  $\frac{h^4}{h^7}$

$h^{-3}$

2)  $\left(-\frac{u}{v}\right)^8 \div \left(-\frac{u}{v}\right)^5$

$\left(-\frac{u}{v}\right)^{-13}$

3)  $\frac{14^{-3}}{14^0}$

$14^{-3}$

4)  $\frac{(-s)^{11}}{(-s)^{-6}}$

$(-s)^{17}$

5)  $\frac{(-1.1)^{-2}}{(-1.1)^{-7}}$

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6)  $\frac{k^{16}}{k^{14}}$

$k^2$

B) Find the value of  $x$ .

1)  $\frac{(-9)^x}{(-9)^6} = (-9)^{-8}$

$x = -2$

4)  $\left(\frac{p}{5}\right)^{15} \div \left(\frac{p}{5}\right)^{-x} = \left(\frac{p}{5}\right)^{19}$

$x = 4$

$\frac{(8.5)^{-13}}{(8.5)^{-x}} = (8.5)^{-20}$

$x = -7$

$\frac{c^7}{c^{-x}} = c^{-4}$

$x = 11$

C) 1) Which of the following equal  $\left(-\frac{2}{r}\right)^{-2} \div \left(-\frac{2}{r}\right)^{-5}$  ?

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

ii)  $\left(-\frac{2}{r}\right)^{-7}$

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

iv)  $\left(-\frac{2}{r}\right)^7$

2) Find the value of  $x$ , if  $\frac{(-q)^{17}}{(-q)^x} = (-q)^{20}$ .

i) 3

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