

## Exponents - Quotient Rule

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

1)  $\frac{(-b)^{12}}{(-b)^7}$

2)  $\frac{(-17)^{-11}}{(-17)^{-3}}$

3)  $\frac{g^{-2}}{g^{-5}}$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4)  $\left(\frac{m}{3}\right)^{-16} \div \left(\frac{m}{3}\right)^{-10}$

5)  $\frac{(-t)^{-8}}{(-t)^4}$

6)  $\frac{(-9.2)^{12}}{(-9.2)^{-6}}$

\_\_\_\_\_

\_\_\_\_\_

B) Find the value of  $x$ .

1)  $\frac{d^8}{d^{-x}} = d^{17}$

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

4)  $\frac{x^4}{(-2.5)^{11}} = (-2.5)^{-7}$

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

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$\frac{(-12)^{-4}}{(-12)^x} = (-12)^{-10}$

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

$\frac{(-s)^3}{(-s)^{-x}} = (-s)^2$

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

C) 1) Find the value of  $x$ , if  $\frac{(5.2)^{-16}}{(5.2)^{-x}} = (5.2)^{-13}$ .

i) -29

ii) 29

iii) -3

iv) 3

2) Which of the following equals  $\frac{c^0}{c^4}$ ?

i)  $c^{-12}$

ii)  $c^{-4}$

iii)  $c^4$

iv)  $c^0$

**Exponents - Quotient Rule**

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

1)  $\frac{(-b)^{12}}{(-b)^7}$

$(-b)^5$

2)  $\frac{(-17)^{-11}}{(-17)^{-3}}$

$(-17)^{-8}$

3)  $\frac{g^{-2}}{g^{-5}}$

$g^3$

4)  $\left(\frac{m}{3}\right)^{-16} \div \left(\frac{m}{3}\right)^{-10}$

$\left(\frac{m}{3}\right)^{-6}$

5)  $\frac{(-t)^{-8}}{(-t)^4}$

$(-17)^{-8}$

6)  $\frac{(-9.2)^{12}}{(-9.2)^{-6}}$

$(-9.2)^{18}$

B) Find the value of  $x$ .

1)  $\frac{d^8}{d^{-x}} = d^{17}$

$x =$   $9$

4)  $\frac{x^4}{(-2.5)^{11}} = (-2.5)^{-7}$

$x =$   $-2.5$

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$\frac{(-12)^{-4}}{(-12)^x} = (-12)^{-10}$

$x =$   $6$

$\frac{(-s)^3}{(-s)^{-x}} = (-s)^2$

$x =$   $-1$

C) 1) Find the value of  $x$ , if  $\frac{(5.2)^{-16}}{(5.2)^{-x}} = (5.2)^{-13}$ .

i) -29

ii) 29

iii) -3

iv) 3

2) Which of the following equals  $\frac{c^0}{c^4}$ ?

i)  $c^{-12}$

ii)  $c^{-4}$

iii)  $c^4$

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