

A) Use the laws of exponents to find the value of x .

1) $\frac{(6.7)^{-17}}{(6.7)^{-x}} = (6.7)^{14}$

$x =$ _____

2) $\frac{(-15)^{-18}}{x^{-7}} = (-15)^{-11}$

$x =$ _____

3) $x^{-3} \cdot 4^{-3} = 20^{-3}$

$x =$ _____

4) $((-12)^{-4})^x = (-12)^{16}$

5) $625^{-8} = 25^{-x}$

$x =$ _____

7) $\frac{(-79)^{-6}}{x^{-6}} = (-10)^{-6}$

$x =$ _____

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B) Use the laws of exponents to find the value of x and y .

1) $\frac{(-2)^{-9} \cdot (-10)^0 \cdot 5^{-3}}{(-10)^{-4} \cdot (-2)^{-6}} = (-2)^{-x} \cdot 5^y$

2) $\left(\frac{11}{10}\right)^{-8} \div \frac{100^7}{11^{-5}} = 11^{-x} \cdot 10^{-y}$

Exponents

A) Use the laws of exponents to find the value of x .

1) $\frac{(6.7)^{-17}}{(6.7)^{-x}} = (6.7)^{14}$

$x =$ **31**

2) $\frac{(-15)^{-18}}{x^{-7}} = (-15)^{-11}$

$x =$ **-15**

3) $x^{-3} \cdot 4^{-3} = 20^{-3}$

$x =$ **5**

4) $((-12)^{-4})^x = (-12)^{16}$

5) $625^{-8} = 25^{-x}$

$x =$ **16**

7) $\frac{(-79)^{-6}}{x^{-6}} = (-10)^{-6}$

$x =$ **7.9**

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1) $\frac{(-2)^{-9} \cdot (-10)^0 \cdot 5^{-3}}{(-10)^{-4} \cdot (-2)^{-6}} = (-2)^{-x} \cdot 5^y$

2) $\left(\frac{11}{10}\right)^{-8} \div \frac{100^7}{11^{-5}} = 11^{-x} \cdot 10^{-y}$

 $x = -1$ and $y = 1$

 $x = 13$ and $y = 6$