Name : _____

T2S1

Exponents - Product Rule

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

1) $k^{-1} \cdot k^{6}$

2) $(-4)^{11} \cdot (-4)^{-7}$

3) $\left(\frac{c}{d}\right)^{9} \cdot \left(\frac{c}{d}\right)^{0}$

_____ _____ _____

4) $a^{-3} \cdot a^{-5}$

5) $(0.5)^{-18} \cdot (0.5)^{15}$

6) $(-t)^{-12} \cdot (-t)^{2}$

_____ _____

B) Find the value of x.

1) $(-12)^{-1} \cdot (-12)^{x} = (-1$

$\left(-\frac{7}{p}\right)^{-10} \cdot \left(-\frac{7}{p}\right)^{-x} = \left(-\frac{7}{p}\right)^{15}$

x = _____

x = _____

4) $m^{9} \cdot m^{-x} = m^{-19}$

$-2.3)^{x} \cdot (-2.3)^{-14} = (-2.3)^{17}$

x = _____

x = _____

C) 1) Which of the following equals $3^{7} \cdot 3^{-13}$?

i) 3^{-6} ii) 3^{6} iii) -3^{-6} iv) -3^{20}

2) Find the value of x, if $(-q)^{5} \cdot (-q)^{x} = (-q)^{10}$.

i) 10 ii) 5 iii) −10 iv) 15