Name : _____

T1S1

Exponents - Quotient Rule

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

1) $\dfrac{(-5)^{17}}{(-5)^{7}}$

2) $\dfrac{(1.4)^{4}}{(1.4)^{-2}}$

3) $\dfrac{2^{-3}}{2^{-5}}$

4) $\left(\dfrac{2}{3}\right)^{0} \div \left(\dfrac{2}{3}\right)^{-18}$

5) $\dfrac{(-17)^{2}}{(-17)^{8}}$

6) $\dfrac{(-3.8)^{-5}}{(-3.8)^{4}}$

B) Find the value of x.

1) $\dfrac{(2.5)^{11}}{(2.5)^{-x}} = (2.5)^{15}$

x = _____

$\dfrac{(-14)^{x}}{(-14)^{-8}} = (-14)^{3}$

x = _____

4) $\dfrac{x^{-1}}{(-19)^{-2}} = -19$

x = _____

$\left(-\dfrac{4}{5}\right)^{18} \div \left(-\dfrac{4}{5}\right)^{-x} = \left(-\dfrac{4}{5}\right)^{14}$

x = _____

C) 1) Which of the following equals $\dfrac{(-12)^{10}}{(-12)^{2}}$?

i) $(-12)^{12}$ ii) $(-12)^{8}$ iii) $(-12)^{-8}$ iv) $(-12)^{-12}$

2) Find the value of x, if $\dfrac{(6.1)^{16}}{(6.1)^{-x}} = (6.1)^{19}$.

i) 3 ii) −3 iii) −35 iv) 35