Name : _____

T1S2

Exponents - Power of a Product Rule

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

1) $\left(-\frac{5}{3}\right)^{-12} \cdot \left(-\frac{1}{5}\right)^{-12}$

2) $13^{-2} \cdot 6^{-2}$

3) $(-15)^{18} \cdot (-10)^{18}$

_____ _____ _____

4) $4^{-9} \cdot (3.4)^{-9}$

5) $\left(\frac{9}{7}\right)^{11} \cdot (-7)^{11}$

6) $(-5.6)^{-4} \cdot (-2.5)^{-4}$

_____ _____

B) Find the value of x.

1) $(1.6)^{-5} \cdot (-x)^{-5} = (2.4)^{-5}$

x = _____

$x^{-3} \cdot 7^{-3} = 56^{-3}$

x = _____

4) $\left(\frac{3}{5}\right)^{-7} \cdot (-x)^{-7} = (-3)^{-7}$

x = _____

$(-9)^{-x} \cdot 6^{15} = (-54)^{15}$

x = _____

PREVIEW

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C) 1) Find the value of x, if $(-6)^{-10} \cdot (-x)^{-10} = (-30)^{-10}$.

i) -6 ii) 6 iii) 5 iv) -5

2) Which of the following equals $(8.5)^6 \cdot (6.8)^6$?

i) $(15.3)^6$ ii) $(-57.8)^6$ iii) $(57.8)^6$ iv) $(-15.3)^6$