NC EMPT'S
QUESTION?
of the week

north carolina
EARLY
math

Question 8
October 21, 2024

Solve the equation $7^{5x} \cdot 7^{-3} = 1$ for x.

A. $\dfrac{1}{49}$
B. $\dfrac{3}{5}$
C. $\dfrac{4}{5}$
D. 1
E. 49

Last Week's Answer

When buying an item at a sporting goods store, the company advertises that products will be 10% higher than those purchased on their website. If you buy an item in their store for $385, what would it cost had you bought it on their website?

A. $38.50
B. $346.50
C. $350.00
D. $388.89
E. $423.50

Solution:

$$Let\ x = web\ price\ for\ item$$
$$Store\ price\ =\ 10\%\ higher\ than\ web\ price$$
$$385\ =\ x\ +\ (10\%\ of\ x)$$
$$385\ =\ x\ +\ 0.1x$$
$$385 = 1.1x$$
$$x\ =\ \$350$$

Each week, we'll reveal the answer to the previous week's question!