

NC EMPT'S
QUESTION?
of the week

24. After a 12% reduction, the sale price of a pair of flip-flops was \$9.46. Before the reduction, the original price was
- A. \$8.32 B. \$9.34 C. \$9.58 D. \$10.75 E. \$10.88

Last Week's Answer

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

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

Solution: Notice on the left side of the equation that 7^{5x} and 7^{-3} can be condensed by using the law of exponents for multiplying expressions with the same base, that is, "keep the base and add the exponents."

$$7^{5x} \cdot 7^{-3} = 1$$

$$7^{5x-3} = 1$$

It would be helpful if both sides of the equation had the same base of 7. So rewrite the number 1 as 7^0 . Then if both sides of the equation have the same base of 7, then the exponents must also have the same values.

$$7^{5x-3} = 1$$

$$7^{5x-3} = 7^0$$

$$5x - 3 = 0$$

$$5x = 3$$

$$x = \frac{3}{5}$$

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

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