

NC EMPT'S
QUESTION?
of The week

23. Circle the one best answer. Justify your answer by showing all work below.

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

Last Week's Answer



Solution:

Solution: Quickly solve each of the inequalities in the five possible answers for x by dividing by the coefficient of x. Remember that dividing both sides of a linear inequality by a negative number causes the inequality to become false. So remember to reverse the inequality sign after you divide to make it true. Answer choices A, B, and E all require division by -5 . Answer choices C and D require division by $+5$ so the inequality sign will not change. The possible answers can now be written as:

A. $x \geq -\frac{3}{5}$

B. $x < -\frac{3}{5}$

C. $x \leq -\frac{3}{5}$

D. $x > -\frac{3}{5}$

E. $x \leq \frac{3}{5}$

Answer choice A correctly matches the graph given.

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

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