Algebra: Multiplication Property of Equality

Brief review: The **reciprocal** of a number, $\dfrac{a}{b}$ is $\dfrac{b}{a}$.

    When the reciprocal of any number (except 0) is multiplied together with the number, the result is 1.

What is the reciprocal of: $\dfrac{2}{5}$ $\dfrac{-3}{7}$ $\dfrac{8}{11}$ -9

What is: $\dfrac{2}{5}\bullet\dfrac{5}{2}$ $\dfrac{-3}{7}\bullet\dfrac{-7}{3}$ $\dfrac{8}{11}\bullet\dfrac{11}{8}$ $-9\bullet\dfrac{-1}{9}$

Multiplication property of Equality Multiplying both sides of an equation by the same number, does not change the solution of the equation.	If $a=b$, then $a\bullet c=b\bullet c$	If $5x=20$, then $\dfrac{1}{5}\bullet 5x=\dfrac{1}{5}\bullet 20$

Finish the example: $5x=20$ Multiply by the reciprocal of 5 to isolate the x.

Division property of Equality Dividing both sides of an equation by the same number, does not change the solution set of the equation.	If $a=b$, then $\dfrac{a}{c}=\dfrac{b}{c}$ $(c\neq 0)$	If $-4y=12$, then $\dfrac{-4y}{-4}=\dfrac{12}{-4}$

Finish the example: $-4y=12$ Divide by the coefficient to isolate the y.

TRY: (use either property)

     $7x=-21$ $5x+3x=32$ (don't forget to combine like terms first)