## Essential Question: How do I solve equations using multiplication and division?

| Questions /Main Ideas | Class Notes |
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| What is the multiplication property of equality? | When you multiply each side of an equation by the same nonzero number, the two sides remain equal. $\begin{aligned} \frac{x}{4} & =2 \\ \frac{x}{4} \cdot 4 & =2 \cdot 4 \\ x & =8 \end{aligned}$ |
| What is the multiplicative inverse property? | The product of a nonzero number and its reciprocal is 1 . $5 \cdot \frac{1}{5}=1$ |
| What is the division property of equality? | When you divide each side of an equation by the same nonzero number, the two sides remain equal. $\begin{aligned} 4 x & =32 \\ \frac{4 x}{4} & =\frac{32}{4} \\ x & =8 \end{aligned}$ |

## Summary

To solve an equation using multiplication, you need to get the variable alone by getting rid of the "stuff" on the same side. Use the inverse operation to undo the numbers. So, if you have multiplication, use division.

