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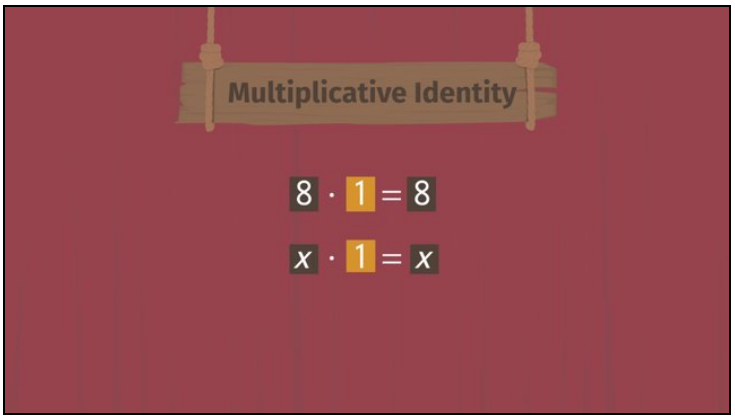
Using the Identity and Inverse to Write Equivalent Expressions



1. **Find the right identity or inverse needed to make the equation true.**
2. Describe the additive and multiplicative inverses and identities.
3. Determine which statements are true.
4. Decide which inverse or identity is being applied to x in the equation.
5. Identify which inverse or identity x represents for each equation.
6. Recall the definitions of additive identity, multiplicative identity, additive inverse, and multiplicative inverse.

\+ with many hints, answer keys, and solution approaches for all tasks

Find the right identity or inverse needed to make the equation true.

Fill in the blank.

1. $5+(\_\_\_\__{1})=0$
2. $3\times(\_\_\_\__{2}\div\_\_\_\__{3})=1$
3. $4+\_\_\_\__{4}=4$
4. $7\times\_\_\_\__{5}=7$
5. $4+(\_\_\_\__{6})=0$
6. $13\times(\_\_\_\__{7}\div\_\_\_\__{8})=1$

Our hints for the tasks

1 from 6

Find the right identity or inverse needed to make the equation true.

1. Hint

Write a fraction $\frac{1}{2}$ as follows $1 \div 2$.

2. Hint

The additive identity is 0 and the multiplicative identity is 1.

3. Hint

For any given number x the additive inverse is $-x$ and, if $x \neq 0$, the multiplicative inverse is $\frac{1}{x} = 1 \div x$.

Solutions and solution approaches for the tasks

1 from 6

Find the right identity or inverse needed to make the equation true.

Answer key: 1: -5 // 2: 1 // 3: 3 // 4: 0 // 5: 1 // 6: -4 // 7: 1 // 8: 13

Keep the following in mind:

- The additive identity is 0.
- The multiplicative identity is 1.
- The additive inverse of any given number x is $-x$. Just change the sign.
- The multiplicative inverse of any non zero number x is $\frac{1}{x} = 1 \div x$, the reciprocal.

With this we can quickly solve the following exercises:

1. $5 + (-5) = 0$
2. $3 \times (1 \div 3) = 1$
3. $4 + (0) = 4$
4. $7 \times (1) = 7$
5. $4 + (-4) = 0$
6. $13 \times (1 \div 13) = 1$