Property **Addition Property of Equality**

For every real number a, b, and c, if $a = b$, then $a + c = b + c$.

Example $8 = 5 + 3$, so $8 + 4 = 5 + 3 + 4$. You can add the same number to both sides of an equation.

Property **Subtraction Property of Equality**

For every real number a, b, and c, if $a = b$, then $a - c = b - c$.

Example $8 = 5 + 3$, so $8 - 2 = 5 + 3 - 2$.

You can subtract the same number from both sides of an equation.

Property **Multiplication Property of Equality**

For every real number a, b, and c, if $a = b$, then $a \cdot c = b \cdot c$.

Example $\frac{6}{2} = 3$, so $\frac{6}{2} \cdot 2 = 3 \cdot 2$. You can multiply both sides of an equation by the same number.

Property **Division Property of Equality**

For every real number a, b, and c, with $c \neq 0$, if $a = b$, then $\frac{a}{c} = \frac{b}{c}$.

Example $3 + 1 = 4$, so $\frac{3+1}{2} = \frac{4}{2}$. You can divide both sides of an equation by the same number (except zero).

Use a small white board to solve each equation.

1. $32.1 + A = -14.3$

$-32.1 \quad -32.1$

$A = -46.4$

2. $C - 8.7 = -81.6$

$+8.7 \quad +8.7$

$C = -72.9$

3. $56 = -R$

$\frac{56}{-1} = \frac{-1R}{-1}$

$-56 = R$

4. $\left(\frac{6}{5}\right)\frac{5}{6}M = -20\left(\frac{6}{5}\right)$

$M = -24$

5. $-2.5K = -15$

$\frac{-2.5K}{-2.5} = \frac{-15}{-2.5}$

$K = 6$

6. $\left(-9\right)\left(-\frac{G}{9}\right) = 18\left(-9\right)$

$G = -162$

7. $-\frac{1}{6}P = -24$

$\left(-6\right)\left(-\frac{1}{6}P\right) = \left(-24\right)\left(-6\right)$

$P = 144$