# Reteaching Page
## 2.4 Solving Addition Equations

Equations are mathematical sentences that have an equals sign. The equals sign shows you that the quantities on either side are equal in value.

$4 + 3 = 7$                                        $6 - 2 = 7 - 3$                                        $4 * 8 = 35 - 3$

Equations can be altered without changing the equality, as long as you make the **same alteration to both sides.** We will alter the equations above by subtracting 2 from both sides of the equals sign.

| $(4 + 3) - 2$ | $=$ | $7 - 2$ | | $(6 - 2) - 2$ | $=$ | $(7 - 3) - 2$ | | $(4 * 8) - 2$ | $=$ | $(35 - 3) - 2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| $5$ | $=$ | $5$ | | $2$ | $=$ | $2$ | | $30$ | $=$ | $30$ |

When an equation contains a **variable**, you make alterations with the purpose of getting the variable to be alone. The alterations use **inverse operations** to turn values within the equation to 0. The opposite of Addition is Subtraction so Addition and Subtraction are Inverse Operations.

| | | | |
|---|---|---|---|
| $a + 7$ | $=$ | $27$ | The inverse of +7 is **-7** so let's **-7** from both sides. |
| $a + 7 - 7$ | $=$ | $27 - 7$ | |
| $a + 0$ | $=$ | $20$ | $a = 20$ |

| | | | |
|---|---|---|---|
| $19 + a$ | $=$ | $35$ | The inverse of + 19 is **- 19** so let's **- 19** from both sides. |
| $19 - 19 + a$ | $=$ | $35 - 19$ | |
| $0 + a$ | $=$ | $16$ | $a = 16$ |

**Use inverse operations to solve for $n$ in the following equations.**

_____1) $n + 7 = 12$

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_____2) $n + 38 = 52$

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_____3) $41 + n = 66$

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_____4) $18 + n = 24$

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