

3.1 Solving Equations: $x + a = b$

Subtraction Property of Equality

If you subtract the same number from each side of an equation, the two sides remain equal.

The best way to check your answer is to put your solution back into the original equation to see if the equation is true.

3.1 Solving Equations: $x + a = b$

Example: Solve each equation. Check your solution.

$$\boxed{m} + 2 = 7$$

$-2 \quad -2$

$$\boxed{m = 5}$$

3.1 Solving Equations: $x + a = b$

Example: Solve each equation. Check your solution.

$$\boxed{m} + 13 = -4$$

-13 -13 $-4 - 13$
 $-4 + -13$

$$\boxed{m = -17}$$

3.1 Solving Equations: $x + a = b$

Example: Solve each equation. Check your solution.

$$\boxed{y} + 15 = -8$$

-15 -15 $-8 - 15$
 $-8 + -15$

$$\boxed{y = -23}$$

3.1 Solving Equations: $x + a = b$

Example: Solve each equation. Check your solution.

$$\begin{array}{l}
 -43 - (-9) \\
 -43 + 9
 \end{array}
 \quad
 \begin{array}{l}
 -43 = \boxed{x} + (-9) \\
 -(-9) \quad -(-9)
 \end{array}$$

$$\boxed{-34 = x}$$

3.1 Solving Equations: $x + a = b$

Example: Solve each equation. Check your solution.

$$\begin{array}{l}
 \boxed{k} + 17 = 9 \\
 -17 \quad -17
 \end{array}
 \quad
 \begin{array}{l}
 9 - 17 \\
 9 + -17
 \end{array}$$

$$\boxed{k = -8}$$

3.1 Solving Equations: $x + a = b$

Example: Solve each equation. Check your solution.

$$-4 + \boxed{b} = -13$$

Handwritten work shows the process of solving for b . The equation is $-4 + b = -13$. To isolate b , -4 is subtracted from both sides. This is shown as $-(-4)$ in red below the -4 , and $-(-4)$ in red below the -13 . The result is $-13 + 4$ in blue. The final step is $-13 - (-4)$ in blue, which simplifies to $-13 + 4$ in blue.

$$\boxed{b = -9}$$

3.1 Solving Equations: $x + a = b$

Example: Solve each equation. Check your solution.

$$-11 = \boxed{y} + 27$$

Handwritten work shows the process of solving for y . The equation is $-11 = y + 27$. To isolate y , 27 is subtracted from both sides. This is shown as -27 in red below the 27 , and -27 in red below the -11 . The result is $-11 - 27$ in blue, which simplifies to -38 in blue.

$$\boxed{-38 = y}$$

3.2 Solving Equations: $x - b = c$

Addition Property of Equality:

If you add the same number to each side of an equation, the two sides remain equal.

The best way to check your answer is to put your solution back into the original equation to see if the equation is true.

3.2 Solving Equations: $x - b = c$

Example: Solve each equation. Check your solution.

$$\boxed{h} - 3 = 6$$

$+ 3 \quad + 3$

$$\boxed{h = 9}$$

3.2 Solving Equations: $x - b = c$

Example: Solve each equation. Check your solution.

$$\begin{array}{r} -28 = \boxed{y} - (-6) \\ +(-6) \quad +(-6) \end{array}$$

$$\boxed{-34 = y}$$

3.2 Solving Equations: $x - b = c$

Example: Solve each equation. Check your solution.

$$\begin{array}{r} \boxed{d} - 8 = -22 \\ +8 \quad +8 \end{array}$$

$$\boxed{d = -14}$$

3.2 Solving Equations: $x - b = c$

Example: Solve each equation. Check your solution.

$$\boxed{k} - 36 = -37$$

$+36 \quad +36$

$$\boxed{k = -1}$$

3.2 Solving Equations: $x - b = c$

Example: Solve each equation. Check your solution.

$$\boxed{t} - (-34) = 66$$

$+(-34) \quad +(-34)$

$$\boxed{t = 32}$$

3.2 Solving Equations: $x - b = c$

Example: Solve each equation. Check your solution.

$$\boxed{p} - (-17) = 2$$

$+(-17) \quad +(-17)$

$$\boxed{p = -15}$$

3.2 Solving Equations: $x - b = c$

Example: Solve each equation. Check your solution.

$$\boxed{x} - (-9) = -15$$

$+(-9) \quad +(-9)$

$$\boxed{x = -24}$$

3.2 Solving Equations $x - b = c$.notebook