Solving One-Step Equations Using Addition and Subtraction

Step 1: Add or subtract the number on the same side as the variable to both sides of the equation.
Step 2: Check your answer.

Directions: Solve each equation. Check your answer.

<u>Check</u>

1. $x + 11 = 22$
$\quad -11 \quad -11$

$\boxed{x = 11}$

$x = 11 \qquad x + 11 = 22$

$\qquad 11 + 11 = 22$

$\qquad\quad 22 = 22 \checkmark$

2. $-26 = b - 4$
$\quad +4 \quad\ +4$

$\boxed{-22 = b \quad \text{OR} \quad b = -22}$

$b = -22 \qquad -26 = b - 4$

$\qquad -26 = -22 - 4$

$\qquad -26 = -26 \checkmark$

3. $x + 5 = -30$
$\quad -5 \quad -5$

$\boxed{x = -35}$

$x = -35 \qquad x + 5 = -30$

$\qquad -35 + 5 = -30$

$\qquad\quad -30 = -30 \checkmark$

4. $y + \dfrac{2}{3} = \dfrac{5}{6}$
$\quad -\dfrac{2}{3} \quad -\dfrac{2}{3}$

$\boxed{y = \dfrac{1}{6}}$

$\dfrac{5}{6} - \dfrac{2 \cdot 2}{3 \cdot 2} \qquad \text{LCD} = 6$

$\dfrac{5}{6} - \dfrac{4}{6} = \dfrac{1}{6}$

$y = \dfrac{1}{6} \qquad y + \dfrac{2}{3} = \dfrac{5}{6}$

$\qquad \dfrac{1}{6} + \dfrac{2}{3} = \dfrac{5}{6}$

$\qquad \dfrac{1}{6} + \dfrac{2 \cdot 2}{3 \cdot 2} \qquad \text{LCD} = 6$

$\qquad \dfrac{1}{6} + \dfrac{4}{6} = \dfrac{5}{6}$

$\qquad\qquad \dfrac{5}{6} = \dfrac{5}{6} \checkmark$

5. $1\dfrac{1}{4} = y - 2\dfrac{2}{3}$
$\quad +2\dfrac{2}{3} \quad +2\dfrac{2}{3}$

$\boxed{3\dfrac{11}{12} = y}$

$1\dfrac{1}{4} + 2\dfrac{2}{3}$

$\dfrac{3 \cdot 5}{3 \cdot 4} + \dfrac{8 \cdot 4}{3 \cdot 4} \qquad \text{LCD} = 12$

$\dfrac{15}{12} + \dfrac{32}{12} = \dfrac{47}{12} = 3\dfrac{11}{12}$

$y = 3\dfrac{11}{12} \qquad 1\dfrac{1}{4} = y - 2\dfrac{2}{3}$

$\qquad 1\dfrac{1}{4} = 3\dfrac{11}{12} - 2\dfrac{2}{3}$

$\qquad \dfrac{47}{12} - \dfrac{8 \cdot 4}{3 \cdot 4} \qquad \text{LCD} = 12$

OR

$y = 3\frac{11}{12}$

$$\frac{47}{12} - \frac{32}{12}$$

$$\frac{5}{4} = \frac{15 \div 3}{12 \div 3}$$

$$\frac{5}{4} = \frac{5}{4} \checkmark$$

6. $f + 1.2 = -2.7$

$-1.2 \quad -1.2$

$\boxed{f = -3.9}$

$f = -3.9 \qquad f + 1.2 = -2.7$

$-3.9 + 1.2 = -2.7$

$-2.7 = -2.7 \checkmark$

7. $-2.05 = g - 1.6$

$+1.6 \quad +1.6$

$\boxed{-.45 = g \quad OR \quad g = -.45}$

$g = -.45 \qquad -2.05 = g - 1.6$

$-2.05 = -.45 - 1.6$

$-2.05 = -2.05 \checkmark$