

## Solving Two Step Equations

Unit 2: Equations and Inequalities

Solve each equation:

$1. \quad 1 + 7a = 71$ $\begin{array}{r} -1 \quad -1 \\ \hline 7a = 70 \\ \frac{7a}{7} = \frac{70}{7} \\ \boxed{a = 10} \end{array}$	$2. \quad 1 = 5 + \frac{m}{5}$ $\begin{array}{r} -5 \quad -5 \\ \hline -4 = \frac{m}{5} \end{array} \cdot 5$ $\boxed{-20 = m}$
$3. \quad \left[ 5 = \frac{-5+n}{2} \right] \cdot 2$ $\begin{array}{r} -10 = -5 + n \\ +5 \quad +5 \\ \hline -5 = n \end{array}$ $\boxed{-5 = n}$	$4. \quad -78 = -7 + \frac{a}{1}$ $\begin{array}{r} +7 \quad +7 \\ \hline -71 = \frac{a}{1} \end{array} \cdot 1$ $\boxed{-71 = a}$
$5. \quad -6 = \frac{n}{4} - 4$ $\begin{array}{r} +4 \quad +4 \\ \hline -2 = \frac{n}{4} \end{array} \cdot 4$ $\boxed{-8 = n}$	$6. \quad -4 + 3x = 23$ $\begin{array}{r} +4 \quad +4 \\ \hline 3x = 27 \\ \frac{3x}{3} = \frac{27}{3} \\ \boxed{x = 9} \end{array}$
$7. \quad \left[ \frac{b+5}{10} = 2 \right] \cdot 10$ $\begin{array}{r} b+5 = 20 \\ -5 \quad -5 \\ \hline \boxed{b = 15} \end{array}$	$8. \quad 1 = 1 + 7n$ $\begin{array}{r} -1 \quad -1 \\ \hline 0 = 7n \\ \frac{0}{7} = \frac{7n}{7} \\ \boxed{0 = n} \end{array}$
$9. \quad -10 + \frac{p}{14} = -11$ $\begin{array}{r} +10 \quad +10 \\ \hline \left[ \frac{p}{14} = -1 \right] \cdot 14 \\ \boxed{p = -14} \end{array}$	$10. \quad -3p + 3 = 33$ $\begin{array}{r} -3 \quad -3 \\ \hline -3p = 30 \\ \frac{-3p}{-3} = \frac{30}{-3} \\ \boxed{p = -10} \end{array}$

$$11. \left[ 3 = \frac{n+6}{7} \right] \cdot 7$$

$$\begin{array}{r} 21 = n + 6 \\ -6 \quad -6 \\ \hline \end{array}$$

$$\boxed{15 = n}$$

$$12. -13 = -10 + \frac{n}{5}$$

$+10 \quad +10$

$$\left[ -3 = \frac{n}{5} \right] \cdot 5$$

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

$$13. -12 = -9 + \frac{x}{6}$$

$+9 \quad +9$

$$\left[ -3 = \frac{x}{6} \right] \cdot 6$$

$$\boxed{-18 = x}$$

$$14. -1 + \frac{a}{10} = -2$$

$+1 \quad +1$

$$\left[ \frac{a}{10} = -1 \right] \cdot 10$$

$$\boxed{a = -10}$$

$$15. \left[ -3 = \frac{n-8}{7} \right] \cdot 7$$

$$\begin{array}{r} -21 = n - 8 \\ +8 \quad +8 \\ \hline \end{array}$$

$$\boxed{-13 = n}$$

$$16. -7 = \frac{x}{12} - 8$$

$+8 \quad +8$

$$\left[ 1 = \frac{x}{12} \right] \cdot 12$$

$$\boxed{12 = x}$$

$$17. \left[ \frac{x+5}{12} = -1 \right] \cdot 12$$

$$\begin{array}{r} x + 5 = -12 \\ -5 \quad -5 \\ \hline \end{array}$$

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

$$18. \frac{x}{2} + 9 = 2$$

$-9 \quad -9$

$$\left[ \frac{x}{2} = -7 \right] \cdot 2$$

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

$$19. \left[ \frac{6+b}{4} = 2 \right] \cdot 4$$

$$\begin{array}{r} 6 + b = 8 \\ -6 \quad -6 \\ \hline \end{array}$$

$$\boxed{b = 2}$$

$$20. 2 = 2a + 2$$

$-2 \quad -2$

$$\frac{0}{2} = \frac{2a}{2}$$

$$\boxed{0 = a}$$