

**Accelerated Math Mixed Practice**  
**(8.1-8.5) Solving Equations**

Name Key  
 Block \_\_\_\_\_ Date \_\_\_\_\_

**Solve and check these equations** using the steps discussed in class.

Remember the steps for solving an equation.

- \*Simplify each side of the equation by using distributive property to clear parentheses and by combining like terms.
- \* Choose a variable term. Add or subtract that term to both sides to move variable term to other side of equation.
- \* You should now have a 2-step equation. Add or subtract the constant that is with the variable term to move it to other side
- \* You should now have a 1-step equation. Multiply or Divide by the coefficient to get the variable by itself.

$$1) -\frac{5}{6}k = \frac{4}{5}$$

$$\frac{-6}{5} \cdot -\frac{5}{6}k = \frac{4}{5} \cdot \frac{-6}{5}$$

$$k = \frac{-24}{25}$$

ck

$$-\frac{5}{6}k = \frac{4}{5}$$

$$\frac{-6}{5} \left( \frac{-24}{25} \right) \stackrel{?}{=} \frac{4}{5}$$

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

$$2) n - \frac{4}{9} = -\frac{1}{12}$$

$$+ \frac{4}{9} \quad + \frac{4}{9}$$

$$n = \frac{13}{36}$$

ck

$$n - \frac{4}{9} = -\frac{1}{12}$$

$$\frac{13}{36} - \frac{4}{9} \stackrel{?}{=} -\frac{1}{12}$$

$$\frac{13}{36} - \frac{16}{36} \stackrel{?}{=} -\frac{1}{12}$$

$$\frac{-3}{36} \stackrel{?}{=} -\frac{1}{12}$$

$$-\frac{1}{12} = -\frac{1}{12} \checkmark$$

$$-\frac{1}{12} + \frac{4}{9}$$

$$\frac{-3}{36} + \frac{16}{36}$$

$$\frac{13}{36}$$

$$3) -12 - 4x = 24$$

$$-12 + -4x = 24$$

$$+12 \quad +12$$

$$-4x = 36$$

$$\frac{-4x}{-4} = \frac{36}{-4}$$

$$x = -9$$

ck

$$-12 - 4x = 24$$

$$-12 - 4(-9) \stackrel{?}{=} 24$$

$$-12 + -4(-9) \stackrel{?}{=} 24$$

$$-12 + 36 \stackrel{?}{=} 24$$

$$24 = 24 \checkmark$$

$$4) \quad \frac{k}{-2} = -8 - 12$$

$$\frac{k}{-2} = -20$$

$$(-2) \frac{k}{(-2)} = -20(-2)$$

$$k = 40$$

ck  $\frac{k}{-2} = -8 - 12$

$$\frac{40}{-2} = -8 - 12$$

$$-20 = -20 \checkmark$$

$$5) \quad -4 + 3n - 4n = -10$$

$$\begin{array}{r} -4 + -1n = -10 \\ +4 \qquad \qquad +4 \end{array}$$

$$-1n = -6$$

$$\frac{-1n}{-1} = \frac{-6}{-1}$$

$$n = 6$$

ck  $-4 + 3n - 4n = -10$

$$-4 + 3(6) - 4(6) \stackrel{?}{=} -10$$

$$-4 + 18 - 24 \stackrel{?}{=} -10$$

$$14 - 24 \stackrel{?}{=} -10$$

$$-10 = -10 \checkmark$$

$$6) \quad 6(x - 4) = -8$$

$$\begin{array}{r} 6x - 24 = -8 \\ +24 \quad +24 \end{array}$$

$$6x = 16$$

$$\frac{6x}{6} = \frac{16}{6}$$

$$x = \frac{16}{6}$$

$$x = \frac{8}{3}$$

ck  $6(x - 4) = -8$

$$6\left(\frac{8}{3} - 4\right) \stackrel{?}{=} -8$$

$$6\left(\frac{8}{12} - \frac{12}{3}\right) \stackrel{?}{=} -8$$

$$\frac{2}{1} \left(\frac{-4}{3}\right) \stackrel{?}{=} -8$$

$$-8 = -8 \checkmark$$

$$7) \quad \begin{array}{r} -\frac{1}{4}n - 8 = -14 \\ +8 \qquad +8 \end{array}$$

$$-\frac{1}{4}n = -6$$

$$\left(\frac{-4}{1}\right)\left(-\frac{1}{4}n\right) = -6\left(\frac{-4}{1}\right)$$

$$n = 24$$

ck

$$\begin{array}{r} -\frac{1}{4}n - 8 = -14 \\ -\frac{1}{4}(24) - 8 \stackrel{?}{=} -14 \\ -6 + -8 \stackrel{?}{=} -14 \\ -14 = -14 \checkmark \end{array}$$

$$8) \quad \frac{3}{4}(x-12) = -6$$

$$\frac{4}{3} \cdot \frac{3}{4}(x-12) = -6\left(\frac{4}{3}\right)$$

$$\begin{array}{r} x-12 = -8 \\ +12 \quad +12 \end{array}$$

$$x = 4$$

ck

$$\begin{array}{r} \frac{3}{4}(x-12) = -6 \\ \frac{3}{4}(4-12) \stackrel{?}{=} -6 \\ \frac{3}{4}(-8) \stackrel{?}{=} -6 \\ -6 = -6 \checkmark \end{array}$$

$$\begin{array}{r} -\frac{1}{6} \cdot \frac{4}{3} \\ -8 \end{array}$$

$$9) \quad \begin{array}{r} 8x + 7 = 2x - 5 \\ -2x \quad -2x \end{array}$$

$$\begin{array}{r} 6x + 7 = -5 \\ -7 \end{array}$$

$$6x = -12$$

$$\frac{6x}{6} = \frac{-12}{6}$$

$$x = -2$$

ck

$$\begin{array}{r} 8x + 7 = 2x - 5 \\ 8(-2) + 7 \stackrel{?}{=} 2(-2) - 5 \\ -16 + 7 \stackrel{?}{=} -4 - 5 \\ -9 = -9 \checkmark \end{array}$$

$$10) \quad 12 - 4x = -7x - 3$$

$$\begin{array}{r} 12 + 3x = -3 \\ -12 \quad -12 \end{array}$$

$$3x = -15$$

$$\frac{3x}{3} = \frac{-15}{3}$$

$$x = -5$$

ck

$$12 - 4x = -7x - 3$$

$$12 - 4(-5) \stackrel{?}{=} -7(-5) - 3$$

$$12 + 20 \stackrel{?}{=} 35 - 3$$

$$32 \stackrel{?}{=} 32$$

$$32 = 32 \checkmark$$

$$11) \quad 9 - a = 8a$$

$$\begin{array}{r} 9 + -1a = 8a \\ +1a \quad +1a \end{array}$$

$$9 = 9a$$

$$\frac{9}{9} = \frac{9a}{9}$$

$$1 = a$$

ck

$$9 - a = 8a$$

$$9 - 1 \stackrel{?}{=} 8(1)$$

$$8 = 8 \checkmark$$

$$12) \quad -4.2n + 4 = 2.3n - 9$$

$$\begin{array}{r} -4.2n + 4 = 2.3n - 9 \\ +4.2n \quad +4.2n \end{array}$$

$$\begin{array}{r} 4 = 6.5n - 9 \\ +9 \end{array}$$

$$13 = 6.5n$$

$$\frac{13}{6.5} = \frac{6.5n}{6.5}$$

$$\frac{13}{6.5} = n$$

$$\frac{130}{65} = 2 = n$$

ck

$$-4.2n + 4 = 2.3n - 9$$

$-4.2(2) + 4$	$2.3(2) - 9$
$-8.4 + 4$	$4.6 - 9$
$-4.4 \checkmark$	$4.6 - 9$
	$-4.4 \checkmark$

$$\begin{array}{r} 8.10 \\ -4.6 \\ \hline 4.4 \end{array}$$

$$\frac{13}{6.5}$$

$$\frac{-78}{48}$$

$$\frac{-07}{48}$$

$$13) \begin{array}{r} -10x - 2 = 7 - 4x \\ +10x \qquad \qquad +10x \end{array}$$

$$\begin{array}{r} -2 = 7 + 6x \\ -7 \quad -7 \\ \hline \end{array}$$

$$-9 = 6x$$

$$\frac{-9}{6} = \frac{6x}{6}$$

$$\frac{-9}{6} = x$$

$$x = -\frac{3}{2}$$

ck  $-10x - 2 = 7 - 4x$

$$-10\left(-\frac{3}{2}\right) - 2 \stackrel{?}{=} 7 - 4\left(-\frac{3}{2}\right)$$

$$15 - 2 \stackrel{?}{=} 7 - -6$$

$$13 = 13 \checkmark$$

$$14) \frac{2}{5}n - 3 + \frac{3}{4}n = 4 - \frac{2}{5}n + 3$$

$$\begin{array}{r} \frac{23}{20}n - 3 = 7 - \frac{2}{5}n \\ + \frac{2}{5}n \qquad \qquad \qquad + \frac{2}{5}n \end{array}$$

$$\begin{array}{r} \frac{31}{20}n - 3 = 7 \\ +3 \qquad \qquad +3 \end{array}$$

$$\frac{31}{20}n = 10$$

$$\frac{20}{31} \cdot \frac{31}{20}n = 10 \cdot \frac{20}{31}$$

$$n = \frac{200}{31} \text{ or } 6\frac{14}{31}$$

$$\frac{2}{5} + \frac{3}{4} = \frac{8}{20} + \frac{15}{20} = \frac{23}{20}$$

$$\frac{23}{20} + \frac{2}{5} = \frac{23}{20} + \frac{8}{20} = \frac{31}{20}$$

ck  $\frac{2}{5}n - 3 + \frac{3}{4}n = 4 - \frac{2}{5}n + 3$

$$\frac{2}{5} \cdot \frac{200}{31} - 3 + \frac{3}{4} \cdot \frac{200}{31} = 4 - \frac{2}{5} \cdot \frac{200}{31} + 3$$

$$\frac{80}{31} - 3 + \frac{150}{31}$$

$$\frac{124}{31} - \frac{80}{31} + \frac{93}{31}$$

$$\frac{80}{31} + \frac{-93}{31} + \frac{150}{31}$$

$$\frac{137}{31} \checkmark$$

$$\frac{137}{31} \checkmark$$

$$15) \begin{array}{r} -\frac{2}{3}n + 12 = -6 \\ -12 \quad -12 \end{array}$$

$$-\frac{2}{3}n = -18$$

$$-\frac{3}{2} \cdot \frac{2}{3}n = -18 \cdot \frac{3}{2}$$

$$n = 27$$

ck

$$-\frac{2}{3}n + 12 = -6$$

$$-\frac{2}{3}(27) + 12 \stackrel{?}{=} -6$$

$$-18 + 12 \stackrel{?}{=} -6$$

$$-6 = -6 \checkmark$$

$$\frac{-1}{-1} \cdot \frac{27}{27}$$

$$27$$