

Warm up:

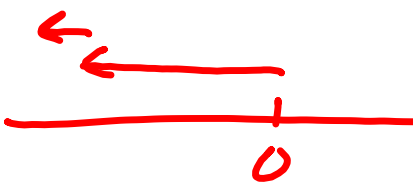
Evaluate.

$$1) \quad -\frac{5}{6} + \frac{3}{1} \begin{matrix} \times 6 \\ \times 6 \end{matrix}$$

$$-\frac{5}{6} + \frac{18}{6} = \frac{13}{6} = 2\frac{1}{6}$$

$$2) \quad \frac{4}{1} \left(-\frac{5}{9} \right) = -\frac{20}{9} = -2\frac{2}{9}$$

$$3) \quad -7 - \frac{2}{3}$$

$$-\frac{7}{1} - \frac{2}{3} \begin{matrix} \text{w/2 w/2} \\ \text{w/2 w/2} \end{matrix} = -\frac{23}{3}$$


HW Solutions

$$\textcircled{1} \quad -2 = \frac{1}{4}(3x+2) + 5x$$

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

$$-2 = \frac{3}{4}x + \frac{1}{2} + 5x$$

$$-2 = \frac{23}{4}x + \frac{1}{2}$$

$$\begin{array}{r} \frac{2}{23} \overline{) \begin{array}{r} -2 \\ -\frac{1}{2} \\ \hline -\frac{23}{4} \end{array}} \\ \underline{\frac{23}{4}x} \\ -\frac{10}{4} \end{array}$$

$$-\frac{10}{23} = x$$

$$\begin{array}{r} \frac{1}{23} \overline{) \begin{array}{r} -1 \\ -\frac{1}{2} \\ \hline -\frac{23}{4} \end{array}} \\ \underline{\frac{23}{4}x} \\ -\frac{10}{4} \end{array}$$
$$\begin{array}{r} \frac{1}{23} \overline{) \begin{array}{r} -1 \\ -\frac{1}{2} \\ \hline -\frac{23}{4} \end{array}} \\ \underline{\frac{23}{4}x} \\ -\frac{10}{4} \end{array}$$

$$\begin{array}{r}
 \textcircled{2} \quad 5 - \frac{2}{3}w = 4 + 6w \\
 \quad \quad -6w \quad \quad -6w \\
 \hline
 5 - \frac{2}{3}w = 4 \\
 -5 \quad \quad \quad -5 \\
 \hline
 -\frac{2}{3} \left(-\frac{20}{3}w \right) = (-1) \left(-\frac{3}{20} \right) \\
 \quad \quad \quad \omega = \frac{3}{20}
 \end{array}$$

$\frac{1}{20}$ $\frac{1}{20}$ $\frac{1}{20}$
 $\frac{1}{20}$ $\frac{1}{20}$ $\frac{1}{20}$

④

$$4x + \frac{2}{3}(2x - 1) = 5$$

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

$$\frac{2}{3} \cdot 2 + \frac{2}{3} \cdot 1$$

$$\frac{16}{3}x - \frac{2}{3} = 5$$

$$\frac{2}{3} \cdot 15 + \frac{2}{3} \cdot 3$$

$$\frac{16}{3} \left(\frac{16}{3}x \right) = \left(\frac{17}{3} \right) \frac{15}{16}$$

$$x = \frac{17}{16}$$

③

$$\begin{array}{r} \frac{1}{5}a - 8 = 6 - 2a \\ + 2a \qquad \qquad + 2a \\ \hline \frac{11}{5}a - 8 = 6 \\ + 8 \quad + 8 \end{array}$$

$$\frac{5}{11} \left(\frac{11}{5}a \right) = \left(\frac{14}{1} \right) \frac{5}{11}$$

$$a = \frac{70}{11}$$

$$\begin{array}{r} \frac{1}{5} + \frac{2}{5} \\ \frac{1}{5} + \frac{10}{5} \\ \frac{11}{5} \end{array}$$

①

$$\frac{3}{4}x + 1 = 9$$

$$\quad -1 \quad -1$$

$$\frac{4}{3} \left(\frac{3}{4}x \right) = \left(\frac{8}{1} \right) \frac{4}{3}$$

$$x = \frac{32}{3}$$

④

$$8 + \frac{7}{8}b = 96$$

$$-\frac{7}{8}b \quad -\frac{7}{8}b$$

$$\frac{64}{65} \left(8 \right) = \left(\frac{65}{8} b \right) \frac{8}{65}$$

$$\frac{64}{65} = b$$

$$\frac{9}{1} - \frac{7}{8}$$

$$\frac{72}{8} - \frac{7}{8}$$

$$\frac{65}{8}$$



Simplify.

$$\begin{aligned}x + 20x &= 21x \\ 21x - 6x &= 15x\end{aligned}$$

$$-5 + 6 = 1$$

$$x + 5(4x - 1) - 3(2x - 2)$$

$$\underline{x} + \underline{20x} - \underline{5} - \underline{6x} + \underline{6}$$

$$15x + 1$$

$$\cancel{2} \left(\frac{5 - 3x}{\cancel{2}} \right) = (-16) \cancel{2}$$

$$\cancel{2} \quad \underline{\underline{5}} - 3x = \underline{\underline{-32}} \quad \cancel{2}$$

$$\underline{\underline{-3x}} = \underline{\underline{-37}}$$

$$x = \frac{37}{3}$$

$$-x + (3x - 1) - (4x - 2) = 3$$

$$\underline{-x} + \underline{3x} - \underline{1} - \underline{4x} + \underline{2} = 3$$

$$\underline{-2x + 1} = 3$$

$$\underline{\underline{-2x}} = \underline{\underline{2}}$$

$$x = -1$$

$$4 - 2(x + 5) = -12 + 3x$$

$$\underline{4} - 2x - \underline{10} = -12 + 3x$$

$$\begin{array}{r} -2x - 6 = -12 + 3x \\ +2x \qquad \qquad \qquad +2x \end{array}$$

$$\begin{array}{r} -6 = -12 + 3x \\ +12 \quad +12 \\ \hline 6 = 3x \end{array}$$

$$\begin{array}{r} 6 = 3x \\ \hline 2 = x \end{array} \quad \textcircled{x = \frac{6}{3}}$$

$$\frac{5}{1} + \frac{3}{4}$$

$$\frac{20}{4} + \frac{3}{4}$$

$$\frac{23}{4}$$

$$5n = 3 - \frac{3}{4}n$$

$$+ \frac{3}{4}n \quad + \frac{3}{4}n$$

$$\frac{4}{23} \left(\frac{23}{4}n \right) = (3) \frac{4}{23}$$

$$n = \frac{12}{23}$$

$$\frac{x}{5} - 7 = -10$$

$+7 \quad +7$

$$5\left(\frac{x}{5}\right) = (-3)5$$
$$x = -15$$

$$4n - 2 = 9 - 7n$$

$$\begin{array}{r} +7n \qquad \qquad \qquad +7n \\ \hline \end{array}$$

$$11n - 2 = 9$$

$$\begin{array}{r} +2 \quad +2 \\ \hline \end{array}$$

$$\frac{11n}{11} = \frac{11}{11}$$

$$n = 1$$

$$7 = 3$$

$$5 = 5$$

$$2x + \frac{1}{4}(3x + 1) = -6$$

$$3x + 4(x - 3) = -61$$

$$-4 = 2 - 3(x - 9) + 7x$$

Simplify.

$$-4x + 6 + 3x$$

$$(7 - x) - 2(3x - 5) + 3(4x - 7) = -1$$

$$5 - m = -11$$

Simplify.

$$5x + 7 + 2x - (6x + 7)$$

$$42 = 3w + 4w$$

$$-6g = 9$$

$$-6 + 5(2x - 3) - (8x - 5) = -6$$

