

Warm up:

Solve.

1) $4x - 7 = 17$

$$\begin{array}{r} 4x - 7 = 17 \\ +7 \quad +7 \\ \hline 4x = 24 \\ \hline 4 \quad 4 \\ \hline x = 6 \end{array}$$

$$\begin{array}{r} -3 - 9 \\ -3 + (-9) \end{array}$$

2) $9 - 8n = -3$

$$\begin{array}{r} 9 - 8n = -3 \\ -9 \quad -9 \\ \hline -8n = -12 \\ \hline -8 \quad -8 \\ \hline n = \frac{12}{8} = \frac{4}{2} = 2 \\ \hline \frac{1}{2} \end{array}$$

Rules for Adding Positives and Negatives

Two Negatives

$$-4 + (-7) = -11$$

$$-10 + (-2) = -12$$

$$-8 + (-8) = -16$$

$$-5.41 + (-3.7) = -9.11$$

$$\begin{array}{r} 5.41 \\ + 3.70 \\ \hline 9.11 \end{array}$$

One Negative and One Positive

$$-3 + 8 = 5$$

$$3 + (-8) = -5$$

$$6 + (-10) = -4$$

$$-9 + 2 = -7$$

$$6 + (-1) = 5$$

$$1.85 + (-6.7) = -4.85$$

$$\begin{array}{r} 6.70 \\ - 1.85 \\ \hline 4.85 \end{array}$$

Subtraction is the same as adding the opposite

$$-5 - 3 = -5 + (-3) = -8$$

$$4 - 11 = 4 + (-11) = -7$$

$$-6 - (-10) = -6 + 10 = 4$$

$$3 - (-14) = 3 + 14 = 17$$

$$-8 - (-2) = -8 + 2 = -6$$

$$-28.19 - (-3.4) = -28.19 + 3.4$$

$$\textcircled{-24.79}$$

$$\begin{array}{r} 28.19 \\ - 3.40 \\ \hline 24.79 \end{array}$$

$$-24.39 = -2.95 - 6.7w$$

$$+ 2.95 \quad + 2.95$$

$$\begin{array}{r} \overset{3}{24}.\overset{1}{39} \\ - 2.95 \\ \hline 21.44 \end{array}$$

$$\begin{array}{r} -21.44 = -6.7w \\ -6.7 \quad -6.7 \\ \hline \end{array}$$

$$6.7 \overline{) 21.44}$$

$$3.2 = w$$

$$\begin{array}{r} 3.2 \\ 67 \overline{) 214.4} \\ -201 \downarrow \\ \hline 134 \\ -134 \\ \hline 0 \end{array}$$

$$\begin{array}{r} \overset{1}{67} \overset{2}{67} \\ \times 2 \quad \times 3 \\ \hline 134 \quad 201 \end{array}$$

Showdown

$$\begin{array}{r} \cancel{-8} + 4.25a = 51.5 \\ +8 \qquad \qquad \qquad +8.0 \end{array}$$

$$\begin{array}{r} 4.25 \overline{) 59.5} \\ \underline{425} \\ 1700 \\ \underline{-1700} \\ 0 \end{array}$$

$$\begin{array}{r} 4.25a = 59.5 \\ \underline{4.25} \quad \underline{4.25} \\ a = 14 \end{array}$$

$$\begin{array}{r}
 -\frac{1}{2} - 1\frac{5}{6} \\
 -\frac{1}{2} - \frac{11}{6} \\
 -\frac{3}{6} - \frac{11}{6} \\
 \hline
 -\frac{3}{6} - \frac{11}{6} \\
 -\frac{3+11}{6} \\
 -\frac{14}{6} \div (-3) \\
 -\frac{14}{6} \cdot \left(-\frac{1}{3}\right) \\
 \frac{14}{18} = x
 \end{array}
 \quad
 \begin{array}{r}
 \frac{1}{2} = -3x + 1\frac{5}{6} \\
 -\frac{1}{2} = -3x + 1\frac{5}{6} \\
 -\frac{1}{2} - 1\frac{5}{6} = -3x \\
 \hline
 -\frac{14}{6} = -3x \\
 \frac{-\frac{14}{6}}{-3} = \frac{-3x}{-3} \\
 \frac{14}{18} = x
 \end{array}
 \quad
 \textcircled{x = \frac{7}{9}}$$

$$3.95 - m = -6.5$$

You bought a pizza and some bottles of soda for a small party. The pizza costs \$16 and each bottle of soda costs \$3. How many bottles of soda did you buy if you spent a total of \$43?

$$\frac{4}{5}n - \frac{3}{8} = -3\frac{1}{2}$$

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