Review Exercise Set 32

Exercise 1: Convert 38 ounces to pounds.

Exercise 2: Multiply 2 pounds 7 ounces by 3.

Exercise 3: Add 1 ton 700 pounds and 2 tons 1500 pounds.

Exercise 4: Subtract 3 pounds 5 ounces from 8 pounds 3 ounces.

Exercise 5: Divide 9 pounds 4 ounces by 4.
Review Exercise Set 32 Answer Key

Exercise 1: Convert 38 ounces to pounds.

Conversion factor: 16 ounces = 1 pound

\[ 38 \text{ ounces} \times \frac{1 \text{ pound}}{16 \text{ ounces}} = \frac{38 \text{ pounds}}{16} = 2 \frac{6}{16} \text{ pounds} = 2 \frac{3}{8} \text{ pounds} \]

The correct answer is 2 3/8 pounds

Exercise 2: Multiply 2 pounds 7 ounces by 3.

\[
\begin{align*}
2 \text{ pounds} & \quad 7 \text{ ounces} \\
\times & \quad 3 \\
\hline
6 \text{ pounds} & \quad 21 \text{ ounces}
\end{align*}
\]

Since we have more than 16 ounces we can subtract 16 from the ounces and add it as 1 to the pounds.

\[
\begin{align*}
6 \text{ pounds} & \quad 21 \text{ ounces} \\
+1 \text{ pound} & \quad -16 \text{ ounces} \\
7 \text{ pounds} & \quad 5 \text{ ounces}
\end{align*}
\]

The correct answer is 7 pounds 5 ounces

Exercise 3: Add 1 ton 700 pounds and 2 tons 1500 pounds.

Conversion factor: 1 ton = 2,000 pounds

\[
\begin{align*}
1 \text{ ton} & \quad 700 \text{ pounds} \\
+ & \quad 2 \text{ tons} \quad 1500 \text{ pounds} \\
\hline
3 \text{ tons} & \quad 2200 \text{ pounds}
\end{align*}
\]

To simplify the answer we need to subtract 2000 pounds and add it as 1 to the tons.

\[
\begin{align*}
3 \text{ tons} & \quad 2200 \text{ pounds} \\
+1 \text{ tons} & \quad -2000 \text{ pounds} \\
4 \text{ tons} & \quad 200 \text{ pounds}
\end{align*}
\]

The correct answer is 4 tons 200 pounds.
Exercise 4: Subtract 3 pounds 5 ounces from 8 pounds 3 ounces.

\[
\begin{array}{c}
8 \text{ pounds} & 3 \text{ ounces} \\
- \phantom{0}3 \text{ pounds} & 5 \text{ ounces} \\
\end{array}
\]

We do not have enough ounces in the first measurement to perform the subtraction, so we need to take 1 away from the 8 pounds and add it as 16 to the 3 ounces.

\[
\begin{array}{c}
8 \text{ pounds} & 3 \text{ ounces} \\
- \phantom{0}1 \text{ pound} & +16 \text{ ounces} \\
\hline
7 \text{ pounds} & 19 \text{ ounces} \\
\end{array}
\]

Now we can perform the subtract of 3 pounds 5 ounces.

\[
\begin{array}{c}
7 \text{ pounds} & 19 \text{ ounces} \\
- \phantom{0}3 \text{ pounds} & 5 \text{ ounces} \\
\hline
4 \text{ pounds} & 14 \text{ ounces} \\
\end{array}
\]

The correct answer is 4 pounds 14 ounces.

Exercise 5: Divide 9 pounds 4 ounces by 4.

First setup the problem in long-division format and then divide 4 into the 9 pounds.

\[
\begin{array}{c}
2 \text{ pounds} \\
4 \overline{9 \text{ pounds}} & 4 \text{ ounces} \\
- \phantom{0}8 \text{ pounds} \\
\hline
1 \text{ pound} & 4 \text{ ounces} \\
\end{array}
\]

Now we need to convert the 1 pound into ounces so that it can be combined with the 4 ounces. To do this, we will subtract 1 pound and add 16 ounces.

\[
\begin{array}{c}
2 \text{ pounds} \\
4 \overline{9 \text{ pounds}} & 4 \text{ ounces} \\
- \phantom{0}8 \text{ pounds} \\
\hline
1 \text{ pound} & 4 \text{ ounces} \\
-1 \text{ pound} & +16 \text{ ounces} \\
\hline
20 \text{ ounces} \\
\end{array}
\]
Exercise 5 (Continued):

Finally, divide the 4 into the 20 ounces.

\[
\begin{array}{c|c}
\text{2 pounds} & \text{5 ounces} \\
\hline
\text{4 \, \text{9 pounds}} & \text{4 ounces} \\
\hline
\text{4 \, \text{8 pounds}} \\
\hline
\text{1 pound} & \text{4 ounces} \\
\hline
\text{1 \, \text{16 ounces}} \\
\hline
\text{20 ounces} \\
\hline
\text{0}
\end{array}
\]

The quotient would be 2 pounds 5 ounces.