Subtract Four-Digit Numbers with Regrouping

We cannot subtract 4 tens from 3 tens. So, we regroup one hundred as 10 tens.

We cannot subtract 2 hundreds from 0 hundreds. We regroup 1 thousand as 10 hundreds. Complete.

Check by adding.

$$
\begin{array}{r}
\overset{0\ \ 13}{5\ \cancel{1}\ \cancel{3}\ 9} \\
-\ 2\ 2\ 4\ 4 \\
\hline
5
\end{array}
\quad \rightarrow \quad
\begin{array}{r}
\overset{0\ \ 13}{5\ \cancel{1}\ \cancel{3}\ 9} \\
-\ 2\ 2\ 4\ 4 \\
\hline
9\ 5
\end{array}
\quad \rightarrow \quad
\begin{array}{r}
\overset{4\ \ 10\ \ 0\ \ 13}{5\ \cancel{1}\ \cancel{3}\ 9} \\
-\ 2\ 2\ 4\ 4 \\
\hline
9\ 5
\end{array}
\qquad
\begin{array}{r}
+\ 2\ 2\ 4\ 4 \\
\hline

\end{array}
$$

1. Subtract. Check by adding.

a. $\begin{array}{r} 5\ 0\ 9\ 1 \\ -\ \ \ 5\ 1\ 0 \\ \hline \end{array}$ $+\ \underline{}$	**b.** $\begin{array}{r} 2\ 9\ 1\ 3 \\ -\ 1\ 7\ 1\ 6 \\ \hline \end{array}$ $+\ \underline{}$
c. $\begin{array}{r} 8\ 4\ 0\ 2 \\ -\ 1\ 3\ 7\ 8 \\ \hline \end{array}$ $+\ \underline{}$	**d.** $\begin{array}{r} 6\ 8\ 8\ 1 \\ -\ \ \ 9\ 1\ 1 \\ \hline \end{array}$ $+\ \underline{}$
e. $\begin{array}{r} 6\ 5\ 4\ 6 \\ -\ 3\ 4\ 9\ 0 \\ \hline \end{array}$ $+\ \underline{}$	**f.** $\begin{array}{r} 9\ 0\ 8\ 0 \\ -\ 5\ 0\ 2\ 5 \\ \hline \end{array}$ $+\ \underline{}$
g. $\begin{array}{r} 4\ 5\ 0\ 9 \\ -\ 1\ 1\ 1\ 6 \\ \hline \end{array}$ $+\ \underline{}$	**h.** $\begin{array}{r} 6\ 2\ 0\ 9 \\ -\ 2\ 0\ 6\ 5 \\ \hline \end{array}$ $+\ \underline{}$

Regrouping with zeros

There are not enough ones, so, we need to regroup. There are no tens nor hundreds, so, we regroup 1 thousand as 10 hundreds.

$$
\begin{array}{r}
{}^{8}\ {}^{10} \\
\not{9}\ \not{0}\ 0\ 4 \\
-\ 3\ 6\ 5\ 5 \\
\hline
\end{array}
$$

$\rightarrow$

Then we regroup 1 hundred as 10 tens.

$$
\begin{array}{r}
{}^{9} \\
{}^{8}\ {}^{\not{10}}\ {}^{10} \\
\not{9}\ \not{0}\ 0\ 4 \\
-\ 3\ 6\ 5\ 5 \\
\hline
\end{array}
$$

$\rightarrow$

Lastly, we regroup 1 ten as 10 ones. There are already 4 ones, so we get 14 ones. Subtract.

$$
\begin{array}{r}
{}^{9}\ \ {}^{9} \\
{}^{8}\ {}^{\not{10}}\ {}^{\not{10}}\ {}^{14} \\
\not{9}\ \not{0}\ \not{0}\ \not{4} \\
-\ 3\ 6\ 5\ 5 \\
\hline
\end{array}
$$

2. Subtract. Check by adding.

a.
$$
\begin{array}{r}
4\ 0\ 0\ 2 \\
-\ 2\ 2\ 1\ 6 \\
\hline
\end{array}
$$
$+$ _____

b.
$$
\begin{array}{r}
6\ 1\ 2\ 0 \\
-\ 3\ 8\ 4\ 4 \\
\hline
\end{array}
$$
$+$ _____

c.
$$
\begin{array}{r}
4\ 3\ 0\ 3 \\
-\ 4\ 0\ 0\ 8 \\
\hline
\end{array}
$$
$+$ _____

d.
$$
\begin{array}{r}
7\ 0\ 1\ 1 \\
-\ \ 9\ 1\ 2 \\
\hline
\end{array}
$$
$+$ _____

e.
$$
\begin{array}{r}
5\ 0\ 0\ 0 \\
-\ 2\ 4\ 9\ 0 \\
\hline
\end{array}
$$
$+$ _____

f.
$$
\begin{array}{r}
9\ 0\ 0\ 1 \\
-\ 4\ 0\ 7\ 5 \\
\hline
\end{array}
$$
$+$ _____

g.
$$
\begin{array}{r}
3\ 3\ 0\ 0 \\
-\ 1\ 4\ 0\ 1 \\
\hline
\end{array}
$$
$+$ _____

h.
$$
\begin{array}{r}
8\ 0\ 0\ 0 \\
-\ 1\ 7\ 7\ 9 \\
\hline
\end{array}
$$
$+$ _____

3. Solve in the correct order.

a. $4{,}908 - 203 - 1{,}420$

b. $9{,}000 - (3{,}450 + 593)$

4. Solve with mental math.

a. A jogging track is 4,200 feet long. Through it, there is a shortcut that shortens it to only 3,100 feet. How much shorter is the track when using the shortcut?

b. Josh jogged around the track using the shortcut, three times. How many feet did he jog in total?

Puzzle Corner Place the digits 1, 2, 3, 4, and 5 into the boxes so that the number sentences become true.

☐ × ☐ + ☐ ☐ ☐ = 341   ☐ ☐ × ☐ + ☐ × ☐ = 72