1. Laura and Sean find the product of \( \frac{2}{3} \times 4 \) using different methods.

   **Laura:** It’s 2 thirds of 4.

   \[
   \frac{2}{3} \times 4 = \frac{4}{3} + \frac{4}{3} = 2 \times \frac{4}{3} = \frac{8}{3}
   \]

   **Sean:** It’s 4 groups of 2 thirds.

   \[
   \frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3} = 4 \times \frac{2}{3} = \frac{8}{3}
   \]

   Use words, pictures, or numbers to compare their methods in the space below.

2. Rewrite the following addition expressions as fractions as shown in the example.

   **Example:** \( \frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \frac{2}{3} = \frac{4 \times 2}{3} = \frac{8}{3} \)

   a. \( \frac{7}{4} + \frac{7}{4} + \frac{7}{4} = \)
   b. \( \frac{14}{5} + \frac{14}{5} = \)
   c. \( \frac{4}{7} + \frac{4}{7} + \frac{4}{7} = \)

3. Solve and model each problem as a fraction of a set and as repeated addition.

   **Example:**
   \[
   \frac{2}{3} \times 6 = 2 \times \frac{6}{3} = 2 \times 2 = 4
   \]

   a. \( \frac{1}{2} \times 8 \)

   b. \( \frac{3}{5} \times 10 \)

   \[
   8 \times \frac{1}{2}
   \]

   \[
   10 \times \frac{3}{5}
   \]
Lesson 8 Problem Set

4. Solve each problem in two different ways as modeled in the example.

Example: \[6 \times \frac{2}{3} = \frac{6 \times 2}{3} = \frac{3 \times 2 \times 2}{3} = \frac{3 \times 4}{3} = 4\]

\[6 \times \frac{2}{3} = \frac{6 \times 2}{3} = \frac{6 \times \frac{2}{3}}{1} = 4\]

a. \[14 \times \frac{3}{7}\]

b. \[\frac{3}{4} \times 36\]

c. \[30 \times \frac{13}{10}\]

d. \[\frac{9}{8} \times 32\]

5. Solve each problem any way you choose.

a. \[\frac{1}{2} \times 60\]

\[
\frac{1}{2}\text{ minute} = \underline{00}\underline{00}\text{ seconds}
\]

b. \[\frac{3}{4} \times 60\]

\[
\frac{3}{4}\text{ hour} = \underline{00}\underline{00}\text{ minutes}
\]

c. \[\frac{3}{10} \times 1,000\]

\[
\frac{3}{10}\text{ kilogram} = \underline{00}\underline{00}\text{ grams}
\]

d. \[\frac{4}{5} \times 100\]

\[
\frac{4}{5}\text{ meter} = \underline{00}\underline{00}\text{ centimeters}
\]