A local newspaper, Greenville Daily News, sells advertising space. It charges advertisers according to the fraction of a page their ad will fill.

1a. Flo's restaurant owner purchased ads to be put in the paper over several days. She bought three \( \frac{3}{4} \)-page ads, four \( \frac{1}{8} \)-page ads, and ten \( \frac{1}{16} \)-page ads. What is the total amount of ad space that the owner buys? Write number sentences to support your answers.

\[
\frac{3}{4} \times 3 = \frac{9}{4} \rightarrow \frac{12}{16}
\]
\[
\frac{1}{8} \times 4 = \frac{4}{8} \rightarrow \frac{8}{16}
\]
\[
\frac{1}{10} \times 10 = \frac{10}{10}
\]
\[
\frac{12}{16} + \frac{8}{16} + \frac{10}{16} = \frac{30}{16} = \frac{14}{16}
\]

1b. Meijer purchased 2 \( \frac{3}{4} \) pages of ads. When one of the items in the ad was discontinued, Meijers cancelled 1 \( \frac{5}{8} \) pages of ads. How much advertising space is Meijer actually using? Write number sentences to support your answers.

\[
2 \frac{3}{4} - 1 \frac{5}{8}
\]

Solution:
2. Lily's father owns 3 ¼ acres of land/lawn. Lily helped her dad mow and finished mowing 1/3 of the land on Monday after school.

a. How much of the lawn did Lily mow on Monday?

\[
3 \frac{1}{4} - \frac{1}{3} \Rightarrow \frac{13}{4} - \frac{1}{3} \Rightarrow \frac{13}{4} \times \frac{1}{3} = \frac{13}{12} = \frac{1}{12}
\]

b. How much of the lawn still needed to be mowed?

\[
3 \frac{1}{12} - 1 \frac{1}{12} = 2 \frac{2}{12}
\]

c. On Tuesday, Lily mowed ½ of the lawn still needing to be mowed. How much of the lawn did she mow on Tuesday?

\[
\frac{1}{2} \times 2 \frac{2}{12} = \frac{1}{2} \times \frac{26}{12} = \frac{26}{24} = \frac{1}{12}
\]

d. Did Lily mow more on Monday or on Tuesday? Explain your reasoning.

\[
\frac{1}{2} \quad \frac{1}{24}
\]

they are =

3. Lily's father also owns Biggby Coffee. Biggby Coffee's most popular coffee drink is a latte (LAH tay). It takes 1/3 cup of milk to make each latte. If they have 2 5/6 cups of milk, how many lattes can they make?

\[
\text{Number of lattes} = \frac{2 \frac{5}{6}}{\frac{1}{3}} = 2 \frac{5}{6} \times \frac{3}{1} = \frac{17}{6} \times \frac{3}{1} = \frac{51}{6} = 8 \frac{3}{6} = 8 \frac{1}{2}
\]

4. How many bows can you make from 4 3/4 meters of ribbon if a bow takes 1/3 meter of ribbon?

\[
4 \frac{3}{4} \div \frac{1}{3} = 4 \frac{3}{4} \times 3 = \frac{19}{4} \times 3 = \frac{57}{4} = 14
\]
5) \[ 8 \div \frac{3}{4} = N \], find the value of N

\[ \frac{8}{1} \times \frac{4}{3} = \frac{32}{3} \]

6) \[ N + \frac{4}{5} = \frac{17}{20} \], find the value of N

\[ \frac{17}{20} - \frac{4 \times 4}{5 \times 4} \to \frac{17}{20} - \frac{16}{20} = \frac{1}{20} \]

7) \[ N - \frac{3}{4} = \frac{9}{20} \], find the value of N

\[ \frac{3 \times 5}{4 \times 5} \cdot \frac{9}{20} \to \frac{15}{20} + \frac{9}{20} = \frac{24}{20} = \frac{14}{20} \]

8) \[ \frac{2}{5} \times N = 15 \], find the value of N

\[ 15 \div \frac{2}{5} \to 15 \times \frac{5}{2} = \frac{75}{2} = 32 \frac{1}{2} \]

9) Find the quotient of \[ 1 \frac{1}{3} \] and \[ \frac{5}{9} \].

\[ 1 \frac{1}{3} \times \frac{9}{5} = \frac{4}{3} \times \frac{9}{5} = \frac{36}{15} \]

10) Find the sum of \[ 1 \frac{1}{3} \] and \[ \frac{5}{9} \].

\[ 1 \frac{1}{3} + \frac{5}{9} \to \frac{3}{9} + \frac{5}{9} = \frac{8}{9} \]

11) Find the difference of \[ 1 \frac{1}{3} \] and \[ \frac{5}{9} \].

\[ 1 \frac{1}{3} - \frac{5}{9} \to \frac{3}{9} - \frac{5}{9} \to \frac{12}{9} - \frac{5}{9} = \frac{7}{9} \]

12) Find the product of \[ 1 \frac{1}{3} \] and \[ \frac{5}{9} \].

\[ 1 \frac{1}{3} \times \frac{5}{9} \to \frac{4}{3} \times \frac{5}{9} = \frac{20}{27} \]