Lesson 10 Problem Set

1. Write expressions to match the diagrams. Then, evaluate.

![Diagram 1]

\[8 + q\]

![Diagram 2]

\[\frac{3}{5} + \frac{1}{2}\]

2. Write an expression to match, and then evaluate.

a. \(\frac{1}{6}\) the sum of 16 and 20

b. Subtract 5 from \(\frac{1}{3}\) of 23.

c. 3 times as much as the sum of \(\frac{3}{4}\) and \(\frac{2}{6}\)

d. \(\frac{2}{5}\) of the product of \(\frac{5}{6}\) and 42

e. 8 copies of the sum of 4 thirds and 2 more

f. 4 times as much as 1 third of 8
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3. Circle the expression(s) that give the same product as \( \frac{4}{5} \times 7 \). Explain how you know.

\[
4 \div (7 \times 5) \quad 7 \div 5 \times 4 \quad (4 \times 7) \div 5 \quad 4 \div (5 \times 7) \quad 4 \times \frac{7}{5} \quad 7 \times \frac{4}{5}
\]

4. Use <, >, or = to make true number sentences without calculating. Explain your thinking.

a. \( 4 \times 2 + 4 \times \frac{2}{3} \quad \text{ } 3 \times \frac{2}{3} \)

b. \( \left(5 \times \frac{3}{4}\right) \times \frac{2}{5} \quad \text{ } \left(5 \times \frac{3}{4}\right) \times \frac{2}{7} \)

c. \( 3 \times \left(3 + \frac{15}{12}\right) \quad \text{ } (3 \times 3) + \frac{15}{12} \)
5. Collette bought milk for herself each month and recorded the amount in the table below. For (a)–(c), write an expression that records the calculation described. Then, solve to find the missing data in the table.

<table>
<thead>
<tr>
<th>Month</th>
<th>Amount (in gallons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>3</td>
</tr>
<tr>
<td>February</td>
<td>2</td>
</tr>
<tr>
<td>March</td>
<td>$1 \frac{1}{4}$</td>
</tr>
<tr>
<td>April</td>
<td>$\frac{7}{4}$</td>
</tr>
<tr>
<td>June</td>
<td></td>
</tr>
<tr>
<td>July</td>
<td>2</td>
</tr>
<tr>
<td>August</td>
<td>1</td>
</tr>
<tr>
<td>September</td>
<td></td>
</tr>
<tr>
<td>October</td>
<td>$\frac{1}{4}$</td>
</tr>
</tbody>
</table>

a. She bought $\frac{1}{4}$ of July’s total in June.

b. She bought $\frac{3}{4}$ as much in September as she did in January and July combined.

c. In April, she bought $\frac{1}{2}$ gallon less than twice as much as she bought in August.

d. Display the data from the table in a line plot.

e. How many gallons of milk did Collette buy from January to October?